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Processes of disposition development in K–5 teachers

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PROCESSES OF DISPOSITION DEVELOPMENT

IN K-5 TEACHERS

by

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A dissertation submitted in partial fulfillment
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Doctor of Philosophy Degree in Educational Psychology
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ABSTRACT

**Processes of Disposition Development
in K-5 Teachers**

by

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Educators concur that teacher competency requires more than teaching knowledge and skills; competency requires appropriate professional dispositions. The development of professional dispositions is an expected outcome of teacher education programs. Since 2002, program accreditation has been contingent on documentation that prospective teachers have met national standards for dispositions. The body of educational research on disposition assessment has been growing. Research on disposition learning and development, however, has been impeded by the prevailing conceptualization of dispositions as fixed traits resistant to change. The present study conceptualized dispositions as malleable constructs within a theoretical framework that synthesized a cognitive model of thinking dispositions and a cultural-historical theory of development. The study aimed to explore and describe the processes by which a group of K-5 teachers developed professional dispositions.

Participants were 30 elementary school teachers enrolled in a graduate teacher education course at a large, urban university in the southwestern United States. Most

were female (80%), Caucasian (83%), teaching in a low-performing, urban school (83%), and completing their second year of teaching (93%). Median age was 24 and ranged from ages 22 to 44.

A single-case study, embedded design was employed. The case was the process of disposition development, and the units of analyses were the affording and hindering mediators of disposition development. Data were collected from individual interviews, focus groups, and document reviews. Grounded theory methodology and a qualitative data analysis computer application were used to organize and analyze the data. Three key findings were identified. First, career commitment, which was derived from career awareness and interest, was necessary to initiate and maintain disposition development. Second, available mentors were necessary for beginning teachers to benefit from opportunities for learning that arose. Third, mediators of disposition development could be affordances or hindrances depending on the dynamic interplay between extrapersonal, intrapersonal, and interpersonal factors. The findings have practical implications for teacher educators who design curriculum and instruction and theoretical implications for educational researchers who investigate dispositions.

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CHAPTER 1

INTRODUCTION

Teaching is More Than Knowledge and Skills

In the early days of education in the United States, teachers were expected to model personal characteristics such as enthusiasm, curiosity, and compassion (Mitchell, Robinson, Plake, & Knowles, 2001). Today, teachers are still expected to demonstrate such attributes, which are sometimes described as professional dispositions. Research has suggested that teachers' professional dispositions, skills, and knowledge are indicators for teacher quality (Darling-Hammond, 2000, 2002; Laczko-Kerr & Berliner, 2002; Wenglinsky, 2002; Wilson, Floden, & Ferrini-Mundy, 2001). Furthermore, dispositions have been recognized as an outcome of teacher learning (Cochran-Smith & Zeichner, 2005). Since 2002 the National Council for Accreditation of Teacher Education [NCATE] has required teacher preparation programs to provide assessment evidence that national standards for professional dispositions have been met (NCATE, 2008). The body of literature concerning assessment of teacher dispositions has been growing. Research regarding the processes by which teachers might learn and develop professional dispositions, however, has remained sparse.

This chapter begins with an overview of the study's topic, purpose, and significance. Next, I describe pertinent theory, which is grounded in the field of educational psychology and incorporates cognitive and cultural-historical approaches to learning and

development. The cognitive perspective will explicate the structure and nature of dispositions. The cultural-historical perspective will emphasize learning and development as dynamic processes initiated within a social context and individuated through reflective internalization. I conclude with the research questions that guided the study.

Topic

When Katz and Rathes introduced dispositions in 1985 as a worthy goal for teacher education, they operationalized dispositions as behavioral tendencies for the manner in which teachers approached teaching. The task of teacher educators was to strengthen prospective teachers' desirable dispositions. Since 2002, the desirability of a disposition has been defined, primarily, by the standards for national accreditation of teacher education programs. Teacher educators are still expected to strengthen prospective teachers' desirable dispositions and, in addition, are expected to document that national standards for dispositions have been met. While the preponderance of recent research on teacher dispositions has focused on assessment, an important question has not been addressed sufficiently. Specifically, how do teachers learn, acquire, develop, or appropriate professional dispositions? Theoretical perspective determines not only the answer to the question, but whether the question is an appropriate one to ask.

Within the fields of personality and cognitive psychology, one assumption seems ubiquitous: dispositions are stable traits that resist change. A participant in the pilot study for this investigation encapsulated the fixed-trait perspective, "You can't teach someone to care. Either you do or you don't" (Obara & Olafson, 2007, p. 20). When dispositions are perceived as static traits that lack malleability, assessment is limited to documenting

the presence or absence of the tendency, and instructional intervention is pointless. I assert that dispositions can be conceptualized within an alternative theoretical framework wherein dispositions are dynamic and amenable to change. Within such an alternative framework, the opportunity to appropriate and enact dispositions could be facilitated by a knowledgeable teacher or peer. Dynamic assessment could consider potential and processes over time.

Purpose

The purpose of this case study was to understand and describe the processes by which a group of K-5 teachers came to develop professional dispositions. In the fields of educational psychology and teacher education, dispositions have been conceptualized as traits, tendencies, habits of mind, attitudes, values, value systems, and beliefs. This study considered dispositions as psychological and pedagogical constructs with perceptual, preference, and performance facets, and as of individual attributes, socially constructed and individually shaped, which embodied; and influenced cognitive, affective, and conative behavior. Professional dispositions were defined as teacher attributes that support student learning and development. Disposition development was defined as the actuation, appropriation, and enactment of professional dispositions.

Vygotsky's work included the theory that learning is optimized with explicit instruction is guided by teachers, colleagues, or other more knowledgeable individuals. In addition, learning is mediated by sociocultural and historic contexts. Learning is appropriated and individuated through the process of internalization. "Thought is not only

mediated externally by signs. It is mediated internally by meanings” (Vygotsky, 1987, p. 282).

Perkins’ cognitive approach to thinking dispositions as individually constructed and socially shaped may seem dialectical to Vygotsky’s theoretical approach. However, Perkins explicates the structure and nature of the construct whereas Vygotsky offers a framework for appropriation and enactment of the construct. Perkins’ triadic model of thinking dispositions includes sensitivity to recognizing the opportunity to use a specific ability, inclination to use the ability, and enactment of the ability (Perkins, Tishman, Ritchhart, Donis, & Andrade, 2000). Perkins created the triadic model to understand thinking dispositions. In this study, I extended the triadic model and applied it to professional teaching dispositions.

Potential Significance

Differing assumptions underlie the predominant theoretical frameworks within educational psychology and teacher education. Educational psychology based on human information processing theory has viewed dispositions as stable traits or individual differences that are resistant to change (Stanovich, 2002). Teacher education literature based on the “wisdom of practice” (Shulman, 1986) has held the implicit assumption that dispositions are not amenable to explicit instruction. By conceptualizing dispositions as malleable, the process of disposition change can be examined. Understanding how professional dispositions develop could have practical implications for teacher educators and instructional designers. Examining dispositions within a theoretical framework that is compatible with malleable dispositions could have theoretical implications for

researchers concerned with the nature and structure of the disposition construct. The current case study addressed a void in the existing disposition literature by viewing dispositions as malleable and seeking to understand the process of disposition development and learning.

Theoretical Framework

In the domain of educational psychology, empirical studies have conceptualized dispositions as innate traits or individual differences, separate from cognition, but predictive of reasoning apart from cognitive ability (Sinatra & Kardash, 2004; Stanovich & West, 1997). Traits, understood as genetically determined, are not amenable to change. Therefore, disposition instruction has not been indicated, and disposition assessment has been summative. In the domain of teacher education, descriptive studies have regarded dispositions as person-centered attributes acquired through the “wisdom of practice” (Shulman, 1986). Neither concept is sufficient to inform instruction of dispositions. In the next section of this chapter, I advance a Vygotskian framework for understanding processes for developing teachers’ dispositions that might have instructional applications.

The Expressive Potential of a Vygotskian Perspective

Vygotsky’s theory is especially suited to the issue of disposition learning and development. Whereas most theorists in the fields of personality and cognitive psychology have viewed personality as attributes that were inherited, then shaped by the environment, Vygotsky understood personality and mental processes as attributes that were developed through cultural-historical processes, then individuated through internalization (Vygotsky, 1987; Wink & Putney, 2002). Mental processes were

bidirectional between interpersonal and intrapersonal functions (Robbins, 2001).

Vygotsky rejected genetic determinism and espoused social construction, internalization, and potential for change (Robbins, 2001). A Vygotskian approach, therefore, offers expressive potential (Strike, 1974) to discuss dispositions as a developmental construct rather than a fixed trait. Given the potential for change within Vygotskian theory, the cultural-historical approach is most appropriate for investigating teachers' processes for developing dispositions.

Vygotsky's cultural-historical approach. Vygotsky was a psychologist who investigated human development, education, and psychopathology in the aftermath of the Russian Revolution and World War I. He focused on theoretical issues of mental functions, but he studied in the context of immediate application to children and adults with various physical, mental, and cognitive disabilities (Vygotsky, 1926/1997). Just as he was concerned with the unity of theory and practice, he was dedicated to the unity and interdependence of learning and development (Palinscar, 1998). This unified relationship occurred through the processes of social construction, cultural mediation, and individual internalization.

Mediation. Mediation is a key concept in a Vygotskian approach and is represented by the equilateral triangle in Figure 1 (Cole, 2005). At the base of the triangle, subject and object are linked directly. At the apex, subject and object are linked indirectly through cultural artifacts. Cultural elements are both subjective and objective. An artifact such as a computer is meaningless without a concept of computer or without ever using a computer. Our world would be limited to what we could see and touch if we did not have

words. Words and language can be mediated through artifacts at the apex of the symbolic triangle (Luria, 1987).

Cultural Artifacts
(Words & Language)



Subject Object

Figure 1. The concept of mediation in Vygotskian cultural-historical theory.

Historicity. In Vygotsky's theory of development, we inherit not only our genes, but we inherit, also, our cultural practices and the artifacts with which we can extend our potential. Our environment, shaped by previous generations, provides tools that connect us to the past, and when we use the tools, we shape our present and the future (Wells, 2005). Vygotsky recognized that the history of an individual's development included the history of the environment in which development occurred, and the environment was always changing. Ontogenetic development was in relation to historical changes at the microgenetic level of the individual, and phylogenetic development was in relation to historical changes at the macrogenetic level of the species (Wells, 2005).

Character and temperament. Historicity was integral to Vygotsky's concept of character and temperament (1926/1997). In Vygotsky's metaphor of teachers as gardeners and learners as plants, neither plants nor learners could be forced to grow, but they could be afforded the opportunity to grow and change if the gardener or teacher organized the environment to provide optimal conditions. Vygotsky elaborated:

Here as everywhere else, nothing happens and nothing passes without leaving a trace, and that the teacher has to forever deal not only with the influence of heredity, but also the influences of all previous experience, i.e., the accumulated capital of all...reactions which had been acquired previously. (1926/1997, p. 319)

Within the metaphor of teacher as gardener, Vygotsky (1926/1997) introduced the concepts of character, temperament, and dialectics. Temperament was genetically based and included individual attributes that were inherited. Character was conceptualized with two aspects: dynamic and static. Static character developed from experience within a social context. Dynamic character arose from “the discordant clash between the two [innate and social] and out of the dialectical transformation of inherited behavior into personal behaviors” (p. 319). While Vygotsky (1997) did not deny that heredity was an influence, he emphasized that experience was also an influence. Consequently, genetics was not considered to be the determining factor in one’s life course.

Vygotskian dispositions. Vygotsky (1987, 1997) referred to the dialectical clash also, as the condition for learning that a teacher should instigate. Within contemporary psychological theories of change, disequilibrium accompanied by cognitive elaboration for deep processing is ideal for long lasting change (Bruning, Schraw, Norby, & Ronning, 2004). Change includes altering attitudes, concepts, beliefs, and dispositions. Dispositions have been defined in educational psychology as characteristic patterns of behavior that are not related to cognitive ability (Stanovich, 2000) and as sensitivity, inclination, and skill (Perkins, Tishman, Ritchhart, Donis, & Andrade, 2000). Vygotsky’s definition of dynamic character was similar to the concept of teacher dispositions conceptualized in this study. Vygotsky identified the most important elements in

development as conflict and problem-solving, which illustrated the principle of dialectical change (Corsaro, 1985). Teachers who experience dissonance between their expectations for students' learning and their realizations about students' learning outcomes have an opportunity to learn. At the moment when the teacher does not know what to do, creative learning can occur, if suitable mediation, such as a mentor, is available.

Zone of proximal development and internalization. Vygotsky asserted that individual development moved from social, interpsychological sources to personal, intrapsychological appropriation. According to his general law of development, "All higher psychological functions are internalized relationships of the social kind, and constitute the social structure of personality" (Vygotsky, 1978, p. 67). Assuming that dispositions can be developed, and that learning precedes development, a teacher could appropriate dispositions from explicit, scaffolded instruction. A more knowledgeable peer or teacher could assist a learner to accomplish that which the learner could not yet accomplish independently. The assisted learning boundary is the upper limit of the zone of proximal development. Actual learning is what can be accomplished without the assistance of a mentor or teacher. The zone of proximal development (ZPD) spans the distance between actual and potential levels of development. For example, if a teacher attended schools and lived in communities with only white students, cultural responsiveness would not be an initial learning goal, but awareness of one's own cultural heritage would be the actual, lower ZPD. With experiences and culturally responsive teachers as models, the teacher could accomplish what could not be understood without assistance, which is the upper end of the ZPD or the potential.

Dynamic assessment assumes the process of learning is ongoing and reveals potential. Dispositions, then, are socially constructed through interpersonal meaning-making within a particular cultural context at a particular point on the timeline of an individual's life history. Furthermore, dispositions are individuated and internalized through intrapersonal sense-making and enacted in a particular cultural context, which begins the process once again. The process is bi-directional and recursive.

Summary of Theoretical Framework

Vygotsky theorized that through guided instruction, learning preceded development (Vygotsky, 1987). Development entailed cultural, historical, and internal processes that could counteract limiting circumstances and genetic determinism (Bruner, 1987). Specifically, humans could appropriate cultural tools and symbols, such as language, to escape their history. Using cultural-historical theory, dispositions can be viewed as constructs that can change. The change processes occur through social, cultural, and historical mediation of non-cognitive mental functions, which are perception, preference, and performance.

Research Questions

In order to understand and describe how teachers develop professional dispositions, four guiding questions were asked:

1. What professional dispositions did participants perceive as being most important?
2. What professional dispositions were evident in participants' reflections about their classroom experiences?
3. What factors afforded participants' development of professional dispositions?

4. What factors hindered participants' development of professional dispositions?

Summary

This chapter introduced the concept of teachers' professional dispositions and the issues regarding disposition assessment. I asserted that the design of disposition instruction and assessment had been hindered by the lack of theory congruent with disposition as a malleable construct. Vygotsky's cultural-historical theory of development, however, offered the expressive potential to explore disposition development as a dynamic process. Consequently, this study aimed to understand disposition development in K-5 teachers from the teachers' perspectives. Chapter 2 will review the relevant literature and offer a conceptual framework for pursuing this investigation. Chapter 3 will describe the case study approach, setting and sample selection, collection of interview data, and analysis of collected data. Chapter 4 will detail data analyses of the process of disposition development and key findings. Chapter 5 will discuss the implications of the findings, limitations of the study, and recommended areas for future study.

CHAPTER 2

LITERATURE REVIEW

In order to understand the process of disposition development in a group of K-5 teachers, which was the purpose of this study, I conducted a critical review of disposition literature from the fields of educational psychology and teacher education. This chapter has three sections. The first section presents literature relevant to dispositions as a psychological construct. The second section describes literature concerning dispositions as a pedagogical construct. In the third section I offer the conceptual framework that guided the design, data collection, and data analyses of the study. The chapter ends with an analysis of the existing knowledge base in terms of strengths, gaps, and possibilities for extending what is already known.

Sources for literature in this review include databases for peer reviewed journals, such as PsycInfo, EBSCO, and Professional Development Collection. Searches were also conducted within specific journals in educational psychology and teacher education: *Journal of Educational Psychology*, *Contemporary Educational Psychology*, *Educational Researcher*, *Educational Psychologist*, and *Educational Review*; *Journal of Teacher Education* and *Teaching and Teacher Education*. Additional resources were located from references cited in the disposition literature. The reliability and validity of quantitative studies and the trustworthiness of qualitative studies were considered. Given the

emergent nature of this qualitative case study and the growing body of disposition literature, review was an ongoing process.

This chapter will present literature related to the philosophical roots of dispositions, the empirical research on dispositions from educational psychology, and the application and assessment of dispositions from teacher education. Although the term *disposition* is in the lexicons of both educational psychology and teacher education, the two fields have conceptualized dispositions differently. Researchers in educational psychology have investigated thinking or cognitive dispositions and examined the construct dimensions as well as the classroom applications in K-12 education (Halpern, 1998; Kuhn, 1999; Perkins, Jay, & Tishman, 1993a; Perkins, Tishman, Ritchhart, Donis, & Andrade, 2000; Resnick, 1987; Stanovich, West, & Sa, 1999). Researchers in teacher education have investigated professional dispositions of teachers as an indicator of teacher and teacher education program quality (Cochran-Smith, & Zeichner, 2005; Darling-Hammond & Bransford, 2005). First, I will review dispositions from the field of educational psychology.

Dispositions as Psychological Constructs

This section will present the philosophical and psychological roots of dispositions and in educational psychology. In the philosophy of science, Ryle (1949) introduced the concept of human dispositions by comparing the properties of human dispositions to the properties of physical dispositions. For example, a property of water is to boil at 100 degrees Celsius. Ryle argued that water did not need to boil in order to have the disposition to boil. Similarly, Ryle suggested that a person could have a disposition

without ever enacting the disposition. Ryle's concept of human disposition as a physical property, however, was not incorporated into the concepts of thinking and cognitive dispositions that were introduced by educational psychologists in the 1980s and 1990s (Halpern, 1998; Kuhn, 1999; Perkins, Jay, & Tishman, 1993a; Resnick, 1987). Although some thinking disposition models incorporated activity, such as Perkins' triadic model of disposition, the observer had to infer the disposition from the activity. Since the late 1990s, educational psychologists have investigated dispositions as a non-cognitive construct that could predict reasoning apart from cognitive ability (Kardash & Sinatra, 2003; Stanovich, West, & Sa, 1999).

Thinking Dispositions

Disposition for higher order thinking. One of the earliest mentions of thinking dispositions in educational psychology literature was Resnick's report to the National Research Council Committee on Mathematics, Science, and Technology for the National Academy of Science (1987). Resnick argued that the disposition to higher order thinking could be cultivated. Her concept of disposition was a habit of thought that could be learned and taught. Furthermore, Resnick suggested that learning to recognize and search for opportunities to apply good thinking capabilities was key to learning to be a good thinker. Resnick noted that school performance was related to the disposition of reflectivity. Resnick's conception of disposition was a precursor to the dispositional theory of thinking, which Perkins, Jay, and Tishman presented in 1993 as the triadic model of dispositions. The facets of disposition - sensitivity, inclination, and ability - were incorporated into the conceptual framework of this study. Details of the framework will be presented in the last section of this chapter.

Critical thinking dispositions. In addition to Perkins' triadic model, several other conceptions of thinking dispositions were prominent in educational psychology literature in the 1990s. Concepts included rational thinking (Stanovich, West, & Sa, 1999), thinking disposition (Halpern, 1998), and critical thinking disposition (Kuhn, 1999). Kuhn's model was unique for two reasons. First, critical thinking was conceptualized within a developmental model based on research from intellectual development. Second, the concept of transfer was added to critical thinking as a dispositional construct; critical thinking included, now, the disposition, as well as the skill, to think well. She defined disposition as a habit shaped by beliefs and values.

Dispositions as a predictor of reasoning. One of the most detailed models of disposition was created by Stanovich, West, and Sa in 1999. Through a series of assessments for dispositions, which included a measure of personality traits using the Five Factor Model of personality (Costa & McCrae, 1992), Stanovich et al. found that reflectivity, rigidity, and willingness to consider alternative explanations were key to dispositions at the rational level of analysis. They concluded that dispositions were non-cognitive variables that could predict reasoning after cognitive ability had been factored out. Dispositions were defined as behavioral/cognitive concepts that "reside at the borderline of cognitive psychology and personality" (pp. 8-9) and as "relatively stable psychological mechanisms and strategies that tend to generate characteristic behavioral tendencies and tactics" (1999, p. 157).

Cognitive dispositions and beliefs. Kardash and Sinatra (2003) incorporated Stanovich's research on dispositions into their investigation of the effect of students' beliefs and dispositions on achievement in a college course. Cognitive dispositions were

defined as a tendency toward learning and thinking. Dispositions were distinguished from epistemological beliefs in that dispositions concerned tendencies and commitments whereas beliefs concerned perspectives on learning and knowledge.

Cognitive dissonance and change. Educational psychologists who are cognitively oriented have conceptualized cognitive dissonance as a state and a metacognitive response to new information that conflicts with an existing belief (Hynd, 2003); the response to inconsistency between experience and personal theory or expectation (Gardner, 2004); the opportunity for conceptual change (Hatano & Ignaki, 2003; Hynd, 2003); inclusive of surprise (Hatano & Ignaki, 2003); necessary but not sufficient for conceptual change (Hynd, 2003); and mediated by individual characteristics (Gardner, 2004; Hynd, 2003).

Several hindering and affording mediators of change were noted in the literature. One hindrance to cognitive dissonance facilitating change was the tendency for individuals to resolve inconsistency by assimilation of conflicting information into an existing mental representation (Gardner, 2004). Other hindrances to change, as noted by Gardner, included: an emotional commitment to an existing personal theory, which was termed resonance; public commitment to a theory, which provided consistency or pride; and personality aspects such as lack of flexibility. Hynd (2003), like Gardner, noted the influence of commitment in conceptual change. Additional prerequisite characteristics, according to Hynd, facilitated change through cognitive dissonance: effort, at least minimal incentive to change, the perception of choice, awareness of consequences, and acceptance of responsibility for consequences. Gardner noted that change could be afforded by an individual's: inclination towards adaptation; discovery of more

compelling concepts within a new community that is perceived as powerful and desirable, yet holds conflicting perspectives and theories; and guidance by others who scaffold understanding of new perspectives that are slightly more complex. The external guidance was to be stopped when the individual internalized the new perspective.

Related Constructs

Disposition as attitude. Stiggins (2005) served as a bridge between the theory and application of dispositions. In his textbook on classroom assessment for teachers, Stiggins defined dispositions as “affective targets influencing student tendencies to behave in academically productive ways” (p. 220). Examples included internal locus of control, positive school values, and strong interests. He indicated dispositions could be assessed on two dimensions: intensity and direction. Although attitude is a separate construct from disposition, the terms are sometimes used synonymously. Stiggins did not describe dispositions as an attitude, but attitude is also assessed on the dimensions of intensity and direction (Fishbein & Azjen, 1972). Stiggins recommended that assessments be performance-based.

Values, beliefs, and attitudes. Rokeach (1968) developed concepts of beliefs, attitudes, and values that form the basis of several social psychology theories. He found that beliefs varied along a central-peripheral dimension. The more central that beliefs were, the more resistant the beliefs were to change. When a belief was changed, the more central the belief, the more “pervasive the effects and widespread the repercussions”(p.3).

Psychological Disposition as a Unifying Construct

A tripartite model of mind incorporates cognitive, affective, and conative aspects of mental functions. Researchers from educational psychology who employed was

important to this study of dispositions, which included cognitive, conative, and affective aspects of mental functions, were important to this study of dispositions. those who incorporated affect, such as Snow (1993), critical thinking such as Stanovich, West, and Sa (1999) and Sinatra and Kardash (2004), definitions of the nature and structure of the construct, and instruction for dispositions (Kuhn, 1999; Perkins et al., 1993).

Hilgard (1980) provided a detailed history of the three-part model of mental functions, which are cognition, affection, and conation. The Trilogy of the Mind, Hilgard's term, has been in continuous use in psychology for more than 200 years. Hilgard noted that Kant's three critiques were influenced by the tripartite model. The Critique of Pure Reason concerned intellect or cognition; the Critique of Practical Reason referred to will, action, or conation; and the Critique of Judgment involved the feeling of pleasure or pain, also known as affection. The first evidence of the tripartite model was in 1755 when German psychologists linked understanding, feeling, and will. Present day psychologists have given more attention to the cognitive aspect than the affective and conative aspects of the tripartite model.

Researchers who were concerned with unifying personality and intelligence – the affective and conative with cognitive aspects of mental functions – have conceived of dispositions as variables that can unify cognitive, emotional, and behavioral aspects of mental functions (Messick, 1996; Snow, Corno, & Jackson, 1996). Snow, Corno, and Jackson's (1996) model, based on the Trilogy of the Mind, represented affective, conative, and cognitive mental functions as individual differences on a continuum. Appendix A provides a graphic representation. Affect was positioned at the left pole, conation was in the center, and cognition was at the right pole. Snow et al. divided each

function into two aspects. Affect was divided into temperament and emotion. Cognition was divided into procedural (know how) and declarative (know that) knowledge. Conation was split into motivation and volition (Snow et al., 1996; Snow & Jackson, 1993). The subcategories of affect, conation, and cognition were, from left to right: temperament, emotion, motivation, volition, procedural knowledge, and declarative knowledge. Personality included temperament, emotion, and motivation. Snow cautioned that the taxonomy was artificial, speculative, and too simplistic for complex mental functions. The primary drawbacks to Snow's triadic model are the linear representation of mental functions - affect does not appear to be connected to cognition - and the lack of social context.

As co-director of Project Zero at the Harvard Graduate School of Education, Perkins investigated the development of learning processes in adults and children, and he was the principal investigator for the Patterns of Thinking project. The multi-year project, which concerned the nature of critical and creative thinking, used a cognitive science approach to understand, teach, and assess thinking dispositions. In the resulting Triadic Theory of Thinking Dispositions, Perkins identified three distinct and necessary components for dispositional behavior: sensitivity, inclination, and ability (Perkins, Jay, & Tishman 1993a, 1993b). In Table 1 Perkins et al. represent the three dimensions of disposition as applied to seven key dispositional thinking skills.

Table 1.

Triadic Model of Dispositions Applied to Thinking Skills

	Inclinations	Sensitivity	Abilities
Broad	Speculate, innovate	Dogmatism, generalities	Flexibility, empathy
Intellectually curious	Wonder, question	Anomalies, gaps	Hypothesize
Seek understanding	Grasp essence	Vagueness, ambiguity	Analogize, question
Planful and strategic	Set goals, anticipate	Inattention, impulsivity	Plan, forecast
Intellectually careful	Precise, thorough	Disorder, confusion	Construct order
Seek reasons	Skeptical, probing	Overgeneralization	Induce, assess
Metacognitive	Monitor thinking	Loss of control	Self-evaluate

Note: Source for triadic model and thinking skills was Perkins, Tishman, & Jay, 1993.

Through a series of empirical experiments, Perkins et al. (1993) demonstrated that inclination and sensitivity make unique contributions to intelligent behavior. In Group One, sixth-grade students read a short story and were instructed to find examples where better thinking was needed (sensitivity). In Group Two, the children read a short story in which sections needing better thinking (sensitivity) had been underlined; they were instructed to describe how to improve thinking (ability, not sensitivity). Factor analysis confirmed that sensitivity and ability were separate factors (Perkins et al., 2000, p. 281). Researchers discovered that sensitivity had the greatest impact on intellectual performance. Perkins and his colleagues offered one of the few models for disposition instruction.

Teaching dispositions to sixth-grade students through enculturation. A transmission model of teaching was not sufficient for teaching dispositions to students, according to Perkins et al. (1993a, 1993b). Instead, he proposed building a "culture of thinking" (p. 16) that used an enculturation model of teaching dispositions for thinking. The enculturation model incorporated exemplars in the environment, interaction among classroom members, and direct instruction. Perkins' model had some similarities to Shulman's idea of professional identity (1986), which will be discussed later. Shulman conceptualized dispositions as internalized values and norms acquired during professional education. Perkins had tested the triadic model of thinking dispositions in a laboratory school at Harvard University, whereas Shulman developed his concept of teaching dispositions from his studies of professional training in higher education of attorneys and physicians.

Perkins noted that Dewey's (1930) habits of mind and Siegel's (1999) critical spirit represented thinking as dispositional and as ability. Perkins translated their views into his definition of dispositions as behavioral tendencies. Table 2 offers several examples of Perkins et al. (1993a) thinking dispositions as behavioral tendencies: the tendency to be curious and wonder; to be skeptical; to be precise and thorough.

Perkins aimed for dispositions to be an explanatory construct. He was concerned that dispositions not be relegated to motivation, solely, as that view would be too limited. Instead, Perkins included attention to habits, perceptual sensitivities, and abilities in his model. "Disposition in our sense is a psychological element with three components: inclination, sensitivity, and ability." The three components contributed as follows. Inclination refers to the person's felt tendency toward behavior X. For example, a person

with an inclination to open-minded thinking will prefer open-minded rather than authoritarian thinking once the need is perceived. Sensitivity, in contrast, refers to the person's alertness to X-occasions. For example, a person sensitive to the need for open-minded thinking will recognize when biased thinking might be an issue to address.

Ability concerns enactment of X-behavior. A person with the ability to be open-minded will enact open-mindedness once the need has been perceived and the preference addressed.

Perkins Applied to Vygotsky

Vygotsky's concepts related to instruction can be mapped onto Perkins' triadic model of dispositions. Vygotsky's disposition towards dynamic instruction and assessment incorporates, from Perkins: Sensitivity to recognize the need to create a new dissonance-causing experience or to capitalize on an existing one; Ability to select an appropriate level of task and to assist a student to learn tasks that can be accomplished with teacher's assistance but not yet alone; and Inclination to mediate rather than transmit learning.

Vygotsky's disposition towards imagination can be described in the triadic model as follows: Sensitivity to recognize the need to explore possibilities; Ability to visualize, hear, feel, taste, or smell something not yet created; and Inclination to consider possibilities as well as facts.

Vygotsky's disposition to attend to interpersonal communication and to intrapersonal thoughts can be conceptualized as: Sensitivity to recognize the need to engage in meaning-making with others and sense-making with self in order to internalize individualized, social constructions; Ability to use problem-solving when a frame clash occurs; and the Inclination towards balancing reflection and action.

Dispositions as Pedagogical Constructs

Learning to be a professional in any field requires thinking about domain-specific knowledge and requires performance of domain-specific skills, according to Lee Shulman (1986), president of the Carnegie Foundation for the Advancement of Teaching. Shulman used legal education to emphasize how teacher preparation often differs from other professions. He asserted that a law school graduate was prepared to think like a lawyer, to perform like a skilled lawyer, and, furthermore, to act so as to develop the values, norms, and commitments of a lawyer. Internalized values and norms were dispositions.

While creating performance assessments for the panel that developed INTASC standards, Shulman (1986; 2006) used wisdom-of-practice strategy for the panel to select ten professional dispositions based on observations of teacher exemplars. Professional education includes three types of case knowledge, according to Shulman (1986): prototypes of theoretical principles, precedents for principles of practice, and parables that illustrate norms and values.

Perkins Triadic Dispositions Applied to Darling-Hammond Dispositions

Darling- Hammond has suggested teachers emulate four dispositions. First is the disposition to continue seeking new approaches to teaching for greater success with students. Second is the disposition towards determination and persistence in working with children until they succeed. Third is the disposition to reflect and learn from experience. Fourth is the willingness to take responsibility for children's learning. Each of these dispositions can be deconstructed and mapped onto Perkins' triadic model of thinking dispositions.

Table 2.

Triadic Model Applied to Teacher Dispositions

Type of disposition	Disposition elements		
	Sensitivity	Inclination	Ability
Teaching			
1. Continue seeking new approaches to teaching for greater success with students	Recognize need for new approaches	Tend to seek innovation	Identify and use a new teaching approach
2. Determination and persistence in working with children until they succeed	Perceive need for resolve	Tend to persist until successful	Focus on objective until goal is met
3. Reflect and learn from experience.	Perceive need to understand failures and successes	Tend to reflect	Apply new insights to teaching practices
4. Willingness to take responsibility for children's learning	Perceive teacher as source for resolving learning problems	Tend to view teacher practices as source of learning problems	Assume responsibility for child's learning

Note. Sources were Darling-Hammond (2006) and Perkins et al. (1993a).

The elements of Perkins' triad include Ability, the basic capacity to carry out a behavior; Inclination, the willingness, motivation or impulse to engage in the behavior; and Sensitivity, the likelihood of noticing occasions to engage in the behavior. For example, the elements in the disposition towards open-mindedness include: recognizing an appropriate occasion to be open to alternative perspectives (Sensitivity); having the basic capacity to see a situation from more than one perspective (Ability); and feeling inclined to invest the energy in doing so (Inclination).

In the next section of this chapter, I will demonstrate how the Perkins' triadic model can be applied to Darling-Hammond's concepts of dispositions in order to illuminate construct dimensions. The examples demonstrate how the model is suitable to examine the components of disposition.

The disposition to continue seeking new approaches to teaching for greater success with students incorporates: Sensitivity to recognize the need to find a new teaching approach; Ability to identify, select, and use a new teaching approach; and Inclination to feel inclined to search for and learn a new approach.

The disposition towards determination and persistence in working with children until they succeed embodies: Sensitivity to recognize the need to persist with a child; Ability to work effectively with a child, and stopping only when success is attained; and Inclination or the tendency to be persistent when working with a child who has not yet been successful in learning.

The disposition to reflect and learn from experience concerns: Sensitivity to recognize the need to reflect on and learn from an experience; Ability to consider one's actions objectively, and to evaluate and synthesize effective and ineffective strategies; and Inclination or tendency towards self-reflection.

The disposition of willingness to take responsibility for children's learning includes: Sensitivity to recognize the need to take responsibility for children's learning; Ability to assume responsibility for a child's learning; and Inclination or tendency to take responsibility for children's learning.

Present day understandings of teacher dispositions can be traced to 1985 when Katz and Raths proposed that professional dispositions be a goal of teacher education.

Dispositions were defined as frequencies or trends of teacher behaviors in the classroom. The task of teacher education programs was to identify desirable dispositions. The task of teacher educators was to strengthen teacher candidates' desired dispositions. When candidate dispositions were not compatible with the conceptual framework of a teacher education program, teacher educators could use dispositions as criteria for exclusion from the program. Although Katz and Raths distinguished dispositions from traits and attitudes, their use of dispositions to select or exclude students from a program implied that dispositions were unlikely to change. Today, professional dispositions have been accepted as outcomes of teacher education (Cochran-Smith, 2005), but disposition literature has not addressed sufficiently how dispositions are learned and how dispositions could be taught. How can prospective teachers learn, acquire, develop, or appropriate the dispositions that are valued and therefore assessed in teacher preparation programs?

Teacher Quality

Educators have recognized that effective teaching required more than skills and knowledge (INTASC, 1992). Using dispositions to explain non-cognitive aspects of teaching seemed reasonable. Prior to 2002, teacher preparation programs evaluated students' dispositions for pedagogical reasons. Since 2002, however, programs evaluated students' dispositions for accountability and accreditation reasons. Accountability issues have included selection, retention, remediation, certification of students, and program accreditation. Programs must provide evidence that performance standards for dispositions have been met (NCATE, 2008).

Working on the assumption that a link exists between teacher quality and student achievement, federal legislation was enacted as No Child Left Behind. The law guarantees all schoolchildren will have “highly qualified teachers” (NCLB; P.L. 107-110, 2002). “Teacher quality...is now one of the most common phrases in the vocabulary of educational reform. Everybody ...wants more of it. The problem is there is no consensus about what it is” (Cochran-Smith, 2005, p. 6).

Although teacher quality definitions have varied, research has suggested that skills, knowledge, and professional teaching dispositions are indicators for teacher quality (Darling-Hammond, 2000, 2002; Wilson, Floden, & Ferrini-Mundy, 2001; Laczko-Kerr & Berliner, 2002; Wenglinsky, 2002). Dispositions have been recognized as an outcome of teacher learning (Cochran-Smith & Zeichner, 2005). In a report by the National Center for Educational Statistics on teacher assessment, Fabriano (1999) distinguished between teaching qualifications, teaching quality and teacher quality. Teaching qualifications were objective, static measures such as ability and aptitude. Teaching and teacher quality were subjective measures. Teaching quality signified the teacher’s effect on students, whereas teacher quality related to a teacher’s evolving attributes, skills, and choices. Fabriano cautioned: "Measuring teacher quality and teaching quality would each likely require substantially more research, review, thought, and discussions with national experts as preliminary steps toward developing a consensus definition, measurement objective, and data collection program" (p. 1). Some researchers, nonetheless, have defined teacher quality as test scores.

Cochran-Smith (2005) noted that defining teacher quality as test scores has precluded understanding of how teachers are impacted by specific conditions or people. She posed

several unanswered questions: “Is caring a quality that can be taught in a teacher preparation program or learned on the job? Is it something people simply have or don’t have? Does this matter in teaching? How do we know?” (p. 9). Any of these questions could be asked in relationship to teaching dispositions.

Accountability: NBPTS, NCATE, INTASC

In 1981, Secretary of Education T. H. Bell created the National Commission on Excellence in Education to examine the quality of education in public and private schools, colleges, and universities in the United States. The commission’s report, *A Nation at Risk: The Imperative for Educational Reform* (1983), predicted deleterious economic and social outcomes if the education system did not keep pace with national and global changes. The report began the current cycle of education reform that has been directed towards improving student learning and achievement, teacher qualifications, and teacher preparation (Mitchell, Robinson, Plake, & Knowles, 2001).

In response to the *Nation at Risk* report, the Carnegie Forum on Education and the Economy (1986) published a report, *A Nation Prepared: Teachers for the 21st Century*, that challenged the teaching profession to set their own standards for teaching and certification. As a result, the National Board for Professional Teaching Standards (NBPTS) was founded in 1987. The NBPTS developed five guiding principles for teachers: 1) teachers are committed to students and their learning; 2) teachers know the subjects they teach and how to teach those subjects to diverse learners; 3) teachers are responsible for managing and monitoring student learning; 4) teachers think systematically about their practice and learn from experience; and 5) teachers are members of learning communities.. The Interstate New Teacher Assessment and Support

Consortium (INTASC), convened by the Council of Chief State School Officers and chaired by Linda Darling-Hammond, incorporated the NBPTS's five guiding principles into the standards for what beginning teachers should be able to know and do. *Model Standards for Beginning Teacher Licensing, Assessment and Development: A Resource for State Dialogue* (1992) codified beginning teacher competencies into ten principles. Each principle specified the requisite skills and knowledge. In an innovative addition, a third dimension was specified – dispositions. The National Council for Accreditation of Teacher Education (NCATE) also adopted the NBPTS's five guiding principles for teachers and incorporated them into the professional standards for accreditation of teacher preparation institutions (2008).

Today, NBPTS, INTASC, and NCATE dominate professional standards-setting for teachers in the United States. Although the organizations share foundational principles and a commitment to performance-based outcome assessments, their missions and governance are different (INTASC, 1992; NBPTS, 1989; NCATE, 2008). NBPTS is governed by educators, and the mission is to advance the quality of teaching and learning through voluntary certification for accomplished teachers. INTASC is governed by state policymakers, and the mission is to recommend policy on teaching standards to states, which is in Appendix B. NCATE is governed by a coalition of 33 member organizations of educators and policymakers, and the purpose is to accredit teacher education programs, which includes assessment of teacher candidates' competencies. As of March 2009, over half of the teacher education programs in the United States (732 of 1200) were accredited or seeking accreditation by NCATE (www.ncate.org). In addition, 50 states created standards for teacher education programs that were based upon or aligned with NCATE's

program standards, which can be found in Appendix C. Two-thirds of all new teachers have graduated from programs accredited by NCATE (NCATE, 2008). Although national accreditation is not required, NCATE accreditation seems to be highly desirable for most teacher preparation programs. Consequently, most programs strive to provide assessment evidence that teacher candidates have met NCATE's standards for skills, knowledge, and dispositions. Earlier versions of NCATE standards required evaluators to refer to a national code of ethics, such as the National Education Association Code of Ethics in Appendix D.

NCATE dispositions. Dispositions are multifaceted and diversely conceptualized constructs. Each college of education accredited by NCATE has identified the most important dispositions for students in their program and created assessments for the program-unique dispositions as well as those named by NCATE. As of spring 2008, NCATE required standards be met for two dispositions: fairness and the belief that all children can learn. The accreditation agency defined fairness as a commitment demonstrated in striving to meet the educational needs of all students in a caring, non-discriminatory, and equitable manner.

The target standard for dispositions states (NCATE, 2008):

Candidates work with students, families, colleagues, and communities in ways that reflect the professional dispositions expected of professional educators as delineated in professional, state, and institutional standards. Candidates demonstrate classroom behaviors that create caring and supportive learning environments and encourage self-directed learning by all students. Candidates

recognize when their own professional dispositions may need to be adjusted and are able to develop plans to do so.

One example of a conceptual framework for a college of education accredited by NCATE follows. The framework incorporated INTASC dispositions. The institution expected each prospective teacher to:

1. Exhibit personal management behaviors valued by the professional education community
2. Demonstrate professional conduct
3. Believe all students can learn
4. Know and respect the influence of race, ethnicity, gender, religion, and other aspects of culture on a child's development and personality
5. Respect the accepted ethical norms, legal requirements, and values of education
6. Demonstrate a commitment to professional development

Assessing dispositions. Although Carr and Claxton (2002), early childhood education teachers, did not address teacher dispositions specifically, they presented one of the first assessment models. They conceptualized learning dispositions from a constructivist perspective. Learning was not the transmission of knowledge, but was, instead, the building of capacity to engage in lifelong learning. Dispositions were defined as responses or learning tendencies that varied on two dimensions. First was the degree to which the disposition persisted, which the authors called robustness. The second variation was the disposition's degree of complexity or differentiation, which was referred to as sophistication. The assessment design criteria incorporated practicability, validity,

flexibility and reliability, and formative value. Disposition persistence or resilience was characterized by continued effort when a task was difficult. Tendency implied some variation within an individual. While an individual may have seemed impulsive, there may have been occasions when they were reflective. The person has an ability to be reflective but not a disposition to be reflective. The idea of multiple applications in the classroom was stressed.

Teacher education journals have explored recently how dispositions are assessed, defined, and incorporated into teacher preparation programs. Two special issues have been published: *The Journal of Teacher Education* (2007) and *Teaching and Teacher Education* (2006). Various definitions of dispositions have included the concepts of beliefs, attitudes, and personality traits inferred from observable behaviors (Burant, Chubbuck, & Whipp, 2007). Damon (2007) cautioned teacher educators that ambiguity in definitions of dispositions could lead to assessments that were influenced by the subjective biases of the evaluator. Murray (2007) asserted that dispositions in teacher education label rather than explain specific behaviors.

Regarding the explanatory powers of dispositions, Stanovich demonstrated empirically that dispositions can predict cognitive behavior. Perkins demonstrated that the sensitivity aspect of disposition is the gatekeeper for enactment of tendencies and abilities.

Applications in Teacher Education

Diez, one of the authors of the original INTASC Standards (1992), commented on the approaches and traditions that have been used to examine dispositions (2007). The first approach concerned dispositions as developmental or stable traits according to Dweck's

theory of incremental versus entity intelligence. The incremental, developmental perspective was, according to Diez, compatible with theoretical approaches such as social-cognition, constructivist-developmental, and moral development. The second approach related to assessments that either separated or joined cognition and affect. Diez contrasted assessments of discrete dispositions with holistic assessments of an entire day of teaching. The third approach described the use of dispositions in teacher education programs to screen applicants for program admittance versus the use of dispositions to build a professional community.

The descriptive studies in teacher education literature represented the practical applications of dispositions in the classroom. Darling-Hammond and Baratz-Snowden (2005) referred to dispositions as habits of thinking and habits of action about teaching, children, and the role of the teacher. Important dispositions were: 1) to reflect and learn from practice; 2) to take responsibility for children's learning; 3) to be determined and to persist in working with children until they succeed; and 4) to continue to seek new approaches to teaching that will allow greater success with students (Darling-Hammond & Bransford, 2005).

Conceptual Framework

The triadic model is useful for understanding the various dispositions, Snow (1996) created a linear scheme which divorced affect from cognition. I propose extending the model: First, instead of a linear presentation, three intersecting circles illustrate more interactions with more variations in degree of interaction. Second, dispositions are at the intersection of and unify knowing, doing, and feeling (cognition, conation, affection), as

Messick (1996) and Snow suggested. Third, Snow’s model did not consider cultural, historical, and social context as mediators that can constrain or support mental functions (Vygotsky, 1987). Conversely, mental functions can impact the cultural, historical, and social context (Vygotsky, 1987). Consequently, bi-directional arrows into and out of the diagram represent the surrounding sociocultural-historical milieu. Figure 2 illustrates the role of dispositions as a unifying construct between thinking, feeling, and acting. The importance of cultural, historical, and social context mediators is represented by the two-way arrows.

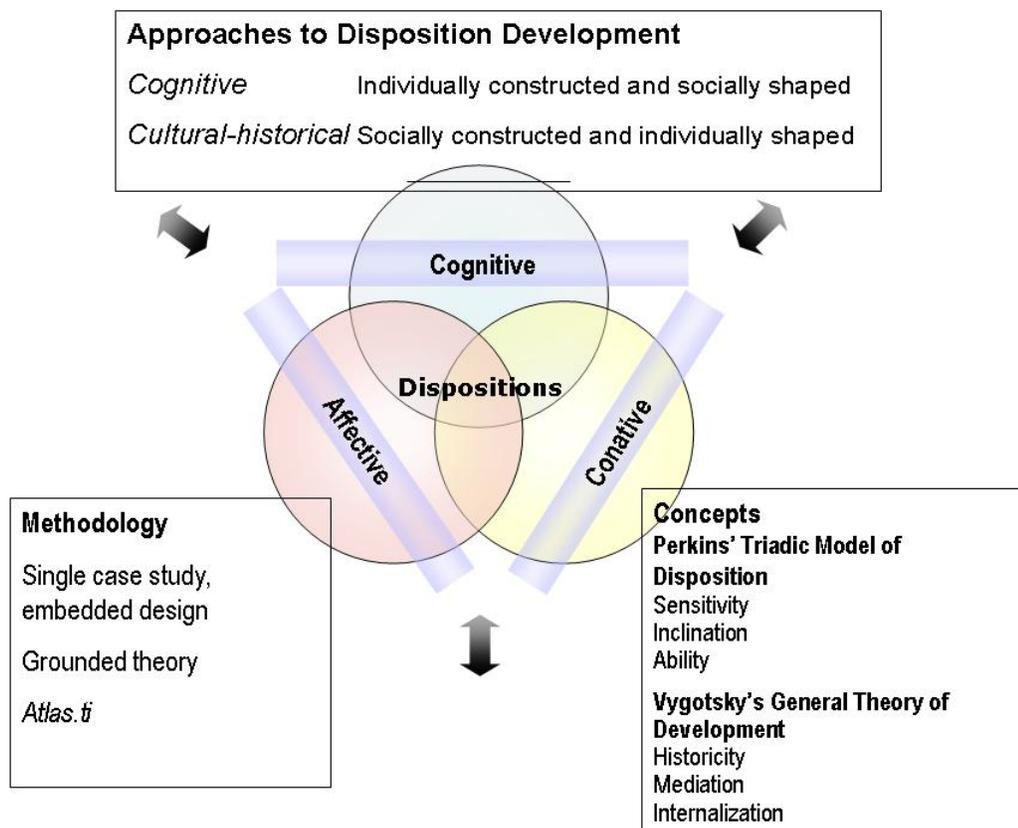


Figure 2. Conceptual framework underlying methodology, concepts, and theories.

I asserted that the design of disposition instruction and assessment had been hindered by the lack of theory congruent with disposition as a malleable construct. The theoretical barrier was removed, however, by creating a framework that incorporated cognitive, conative, and affective perspectives with Vygotsky's cultural-historical theory. The new theoretical framework allows teacher educators to actuate desirable teacher dispositions.

Vygotsky's theory of human development argued against genetics as the primary cause of one's life course. The concepts of mediation, historicity, and internalization support his argument. Learning is not transmitted by teachers, but is actuated by them; learners then appropriate and enact the knowledge. For Vygotsky, disposition or character did not arise from inherited temperament nor from an independent environment. Disposition arose "from the discordant clash between the two and out of the dialectical transformation of inherited behavior into personal behaviors" (p. 319). Dispositions may be best learned within teacher education by actuating the discordant clash.

Summary

This chapter has presented the complexities of conceptualizing dispositions and the challenges of applying dispositions to teaching and learning. Relevant studies were included from pedagogical and psychological disposition literature. Specific terms were beliefs, attitudes, values, commitments, ethics, caring, fairness, and teacher quality. Although there are some similarities between education and psychology studies, such as the idea of a tendency such as willingness, curiosity, open-mindedness, or reflectivity, on the whole, theory and application of dispositions have not been unified in the literature. Teacher education has addressed assessment of teacher dispositions, but has not

incorporated theoretical findings about dispositions from educational psychology.

Conversely, educational psychology has not translated research on thinking dispositions to the domain of teaching dispositions. Although dispositions are being addressed more frequently in teacher education journals, these studies have lacked a theoretical framework (AACTE, 2008). Following is a summary of existing and needed literature on dispositions.

Existing literature has addressed a number of areas including: the lack of a consensus definition of disposition (AACTE, 2008); types of dispositions such as moral (Diez, 2007), thinking (Perkins, 2000); assessment of dispositions by performance, multiple, and behavioral observation methods (Darling-Hammond, 2005, 2006; NCATE, 2008); and assessment fairness (Damon, 2007; NCATE, 2008). On the other hand, existing literature has not given sufficient attention to explicit instructional strategies for learning dispositions.

While teacher education has no agreed-upon definition of disposition, psychology has agreed that dispositions are person-centered attributes. For example, social cognitive theory describes attributions as either dispositional - residing within the person - or as situational - located within the social context (Weiner, 1972). Educational psychology has examined thinking dispositions by drawing upon research of cognitive learning and development, individual differences, and personality traits (Costa, & McCrae, 1992; Dweck, & Leggett, 1988; Messick, 1996; Perkins, Jay, & Tishman, 1993; Sinatra, 2003, Stanovich, 1999).

Another weakness in the literature is the inexactness of the terminology used to describe the acquisition or development of dispositions. Shulman and Perkins have

described dispositions as developed through enculturation. Both suggested, as well, that dispositions could be acquired by modeling more competent peers or mentors.

Operationalizing the concepts of enculturation or disposition modeling for the purpose of instructional design might be problematic.

In contrast to using the broad concepts of enculturation and modeling for learning and development, Vygotsky and Darling-Hammond put forth more specific approaches.

Within Vygotsky's zone of proximal development, the teacher utilized explicit instruction, individualized for a learner, and at a level of difficulty that was optimum for the learner. Similarly, Darling-Hammond proposed specific experiences for prospective teachers. One of the authors of the INTASC Standards (1992) suggested that lack of dispositions is due to a lack of experience (Diez, 2007). She suggested that young, white preservice teachers without any exposure to other cultures may not manifest the disposition of caring initially, but with academic and classroom experience with other cultures, attitudes and dispositions could change.

This study adds to the existing literature and knowledge of teacher dispositions by synthesizing theoretical and practical perspectives on the structure and nature of the construct of teacher dispositions from teacher education (Cochran-Smith & Zeichner, 2005; Darling-Hammond, 2000, 2006a, 2006b; Diez, 2007) and educational psychology (Dweck, & Leggett, 1988; Messick, 1996; Perkins, Jay, & Tishman, 1993; Sinatra & Pintrich, 2003; Vygotsky, 1987).

The study also synthesizes the cognitive perspective of Perkins' et al. (1993a) triadic model of dispositions (sensitivity, receptivity, and ability) with Vygotsky's cultural -- historical approach to development (Vygotsky, 1987), which embodied the concepts of

mediation, historicity, and internalization. Appendix E provides a chart of dispositional definitions and structure in psychology and teacher education. Teacher educators who are responsible for inculcating and evaluating dispositions of preservice teachers might benefit from using this conceptual framework, which regards dispositions as malleable and, therefore, an appropriate instructional objective.

Chapter 3 will incorporate the research questions from Chapter 1 and the conceptual model presented in this chapter in order to explain how the study was designed. Topics will include the methodology, sampling, setting, researcher role, and overviews of data collection and data analysis.

CHAPTER 3

METHODOLOGY

Chapter 1 introduced the topic of disposition development in K-5 teachers and the problem of conceptualizing dispositions as fixed traits. A conceptual framework, in which dispositions were malleable, was offered in Chapter 2. This chapter presents the single case study design that was employed to explore, describe, and understand the processes of developing professional dispositions from the perspectives of a group of K-5 teachers. In addition, I will explain participant and setting selection, data collection, data analyses, researcher role, and study quality.

Research Design

Methodological Frame

Affect and motivation are difficult to examine in controlled experimental conditions. Non-cognitive processes can be explored in depth, however, with qualitative research methods. For example, researchers may not have observed phenomena that occurs rarely or intermittently, but they can interview others who have and who can describe and interpret their observations (Stake, 1995). A case study allows researchers to obtain descriptions and interpretations of others' observations. The process of dispositional development or change is a case that is not likely to be observed by a researcher. Consequently, a case study design was selected for this investigation.

The methodology literature for case studies offers a variety of definitions for case study and case. Merriam (1998) attributed the confusion about case studies to confusion about the process, product, and unit of study. Merriam, Stake (1995), and Yin (2003) have agreed that the critical element of a case study is the boundaries or limits of the case. Accordingly, this investigation defined *case study* as an intensive, descriptive analysis of a learning phenomenon that is a bounded, integrated system. Definitions of *case* have varied: an object, not a process (Stake); a group, intervention, community, or specific policy (Merriam); an event or entity (Yin); and a person, persons, or program (Merriam; Stake; Yin). Merriam and Yin included process as a case. This study defined the case as the process of disposition development in a group of K-5 teachers.

Yin (2003) presented four designs for case studies by using a 2 x 2 matrix: single case or multiple cases and holistic or embedded. The present study employed a single-case, embedded design, which was Yin's Type 1 design. One of Yin's five rationales for using the Type 1 design was the revelatory rationale: few researchers have observed and analyzed the phenomenon. Given the theoretical dominance of dispositions as fixed traits that resist change, few researchers have examined teachers' development of professional dispositions. Yin admonished researchers to commit to a design only after investigating the case so major concerns could be addressed. My initial study of teacher dispositions (Obara & Olafson, 2007) provided sufficient information about the case, disposition development, to proceed with a Type 1 design.

This study aimed to explore and describe disposition development within the theoretical frameworks of cognitive development and cultural-historical development. Important concepts related to beginning teachers' development of professional

dispositions. included perception, preferences, performance, historicity, internalization, and mediation. Mediators of disposition development, both hindrances and affordances, were the units of analysis that were embedded within the single-case of processes of disposition development. Mediators, for example, included participants' level of teaching experience, which ranged from 2 to 18 years. Teachers with experience felt inspired or called to teach, and they had high levels of career commitment, which was another mediator and unit of analysis. Other mediator units were teacher preparation and mentorship.

Within a semi-structured focus group or individual interview, participants described their teaching experiences in response to interviewer prompts (Spradley, 1980). The focus of the interviews was to reveal how participants had constructed, appropriated (internalized), and enacted professional dispositions over time and within specific contexts. Contexts, for example, included low-performing and high-performing schools in an urban area. Individuals with unique histories and within the same environments could have different constraints and affordances to dispositional change. Semi-structured interviews and groups allowed the participants maximum opportunity to offer relevant data. The interview protocol is in Appendix F. The Institutional Review Board approval for this study is in Appendix G.

Participants

To maximize the amount of information about disposition development for this study, purposeful sample of teachers was selected (Yin, 2003). In addition, a snowball sample (Marshall & Rossman, 1999) was used for the final focus group. Participants were

recruited from an online, graduate education course at a large, urban university in southwestern United States. Not only were they graduate students nearly finished with their M.Ed. in Curriculum and Instruction, but they were also K-5 teachers. Thirty elementary school teachers who participated in individual interviews or focus groups were mostly female (80%), Caucasian (83%), in their second year of teaching (93%), had entered teaching through a non-traditional licensure program (85%), and held undergraduate degrees not related to education (91%). Ages ranged from 22 to 44; median age was 24. Table 3 summarizes participant demographics. The course instructor indicated that students in this class could clearly articulate their experiences as beginning teachers in low performing schools.

Table 3.

Participant Demographics

	%	n = 30	
Ethnicity	Hispanic and Caucasian	3%	1
	African American	17%	5
	Caucasian	80%	24
Gender	Male	20%	6
	Female	80%	24
Age	Range	22 - 44	
	Median	24	
	Mean	25	
Teaching Experience	Less than 2 years	93%	28
	Education	17%	5

I provided the instructor with a recruitment letter, which she posted at the course website. The letter explained the purpose of the study and the one-hour time commitment to participate in a focus group. One of the required course assignments could be satisfied by participating in the research study. Of the 50 students in the course, 19 volunteered initially to participate, and 11 more became participants on the recommendation of their classmates who had already participated in a focus group.

Setting

Participants identified their schools when an interview or focus group session was to be held in their classroom. Consequently, school site data were available for five schools. Data concerning student demographics, class size, transiency rates, and students with special needs are in Appendix H. The data sources were annual accountability reports obtained at the state department of education website.

Most of the participants with two years or less experience worked in schools that were Three of the five schools represented the majority of participants' school sites. At three of the schools that I visited for interviews or groups, 78% to 100% of the students received federally-funded lunches at a free or reduced cost, according to the state department of education's 2007-2008 school accountability report. The FRL metric has been used to infer a low socioeconomic status (SES) community. The three schools had transiency rates from 40% to 48% , the percentage of students who were white ranged from 6% to 17%, and the proportion of students who were English Language Learners ranged from 43% to 75%. One out of the six schools met yearly annual progress goals. At one of the schools where interviews were conducted, I arrived after the main doors had

been locked. Not only were the doors locked, but steel gates and padlocks were closed at the perimeter. Members of the focus group were stationed in the parking lot so the other participants and I could be admitted.

One of the participants had been teaching for 18 years, and she worked in a suburban community school in the same district. Within her school, 86% of the students were white, none were English Language Learners, 17% received free or reduced cost lunches, there was a 19% transiency rate, and the school met its goals for annual yearly progress. Unlike the schools in the low SES areas, the main doors of the suburban school remained unlocked after the students left for the day and while the office was still open.

According to Stake (2006), “highly atypical cases can sometimes give the best insights” (p. vii.). Over the past decade, the percentage of baccalaureate degrees in education has fallen (NCES, 2008), and participants in this study represented the trend away from undergraduate education degrees; 83% had degrees in non-education majors. Their bachelor’s degrees were varied: 9% had degrees in education, 28% in government-related majors, 20% in social sciences, and 18% in business-oriented majors. In addition to representing the declining popularity of undergraduate degrees in education, participants’ gender, age, and race/ethnicity profile was similar to most elementary teachers in the United States: 20% female; median age 24 (range 22 to 44); and 83% Caucasian, 17% African American, and 3% Hispanic (NCES, 2008). Their classroom teaching experience ranged from approximately two years to 18 years. In addition, 83% had entered teaching through a non traditional licensure program with minimal preparation before entering a classroom.

Researcher role. I had no prior relationship with 29 of the 30 participants. One participant was a former student from a teacher education course I taught in Fall 2005. My status as a former instructor did not seem relevant as the student had graduated and was now a professional colleague. Glesne (1999) noted, however, “When you are already familiar with a culture or group or school, your angles of vision are narrowed by preformed assumptions about what is going on” (p. 25). Potential bias was addressed by using multiple sources of data (artifacts, interviews, member checks, and observations), multiple levels of data analyses, and multiple theoretical perspectives (cognitive and cultural-historical).

Data Collection

Data collection commenced March 20, 2008, a few days after the approved consent forms were received from the university’s Institutional Review Board. The last interview was conducted June 10, 2008. Four types of data were collected: individual interview audio and video data, focus group audio and video data, graduate course assignments, prior and related course assignments, artifacts about the school sites from the school district (annual reports and demographics), and my observations of the participants’ classrooms.

Stake (1995) stated that case study is progressively focused, as organizing concepts may change during the study. Participants were working full time as teachers and completing their final coursework for the M.Ed. in Curriculum and Instruction. Some were unable to attend one of the focus groups, so I interviewed them individually. Of the six teachers who I interviewed individually, four had significant experience – the range

was 4 to 18 years. All the focus group participants – 22 participants – were in their second year of teaching, and 20 of the 22 had entered teaching through alternative licensure.

Focus groups and individual interviews. The rationale for using focus groups, according to Krueger (2000) is to listen and learn from a small group of participants who are most likely to have the desired information. While listening to others' responses in a focus group, participants may clarify their own thoughts, may broaden their recall, and may provide more elaborated responses than in individual interviews (Marshall & Rossman, 1999; Stiggins, 2005). Group sizes are usually seven to ten, but may range from four to twelve participants (Marshall & Rossman, 1999). The intent of focus groups is to promote self-disclosure among participants so their thoughts and reactions can be understood. Stake (1999) recommends interviews be conducted with a short list of issues-oriented questions. General goals for group and individual interviews included: bringing tacit beliefs, attitudes, and values to awareness; identifying early dispositions, dissonance-causing events, and disposition change; discerning what dispositions were considered important.

I asked the participants to e-mail me their preferred days, times, and locations for a focus group. The most popular times were weekday afternoons, after they finished teaching, and weekday early evenings, before they attended their university courses. I coordinated among the initial 19 participants to find mutually agreeable times and venues. Interviews began in mid-March and three focus groups were set. In addition, six individual interviews were arranged for those who could not attend one of the three groups. Later, a fourth focus group with 11 participants was added at their request. Two

of four focus groups and four of nine individual interviews were held at the university campus in a conference room. Interviews were held late afternoon or early evening during the week. Two focus groups and four interviews were held at participants' school sites, in their classrooms, after the students had left for the day. One follow-up interview was conducted by telephone.

At the beginning of each interview and group, I gave participants a consent form, which everyone read and signed. All questions were answered. Focus group participants were asked to raise their hand if they agreed they would keep confidential all comments heard in the group. We defined confidential as telling another what happened but not describing the source in a manner that would identify the source. Each group and interview was recorded in three mediums: digital audio, audio tapes, and video tapes. Each participant was given a piece of letter-sized paper with their ID, such as G3P4 (Participant 4 in Group 3), and they were videotaped holding their code as they said their name. I assigned pseudonyms to participants and their students who were mentioned in this dissertation. Appendix I includes participants' pseudonyms, identification codes, race or ethnicity, ages, undergraduate degrees, years of teaching experience, and grade levels taught.

After introductory remarks, I usually asked participants to describe their worst teaching experience. The beginning teachers found this question to be engaging, and they gave lengthy narratives of the events. Other topics usually included best teaching experience, initial expectations of being a teacher, surprises, realizations, revised goals, support systems, helpful self-talk, and future plans. I asked them to tell about specific events that happened to them. If a participant spoke in generalities or gave global

narratives, they were prompted, “Can you think of a specific time that would describe the comments you just made?” On occasion I would also prompt, “Can you tell me more?” Throughout the interviews and at the close, I paraphrased what had been discussed in order to summarize their contributions. The summaries encouraged others to add to the comments. Focus groups and interviews were approximately one hour.

Data Analysis

As interviews were completed, audio tapes were transcribed and verified, as needed, with the video tape data. Transcripts were imported into ATLAS.ti, a computer assisted qualitative research analysis program. As each document was coded, line by line, the program organized all related quotes. All quotes could be accessed for each code. Coding was an iterative process as new transcripts were analyzed.

Codes were initially derived from participants’ responses to the research questions and the conceptual framework. From the questions asked, codes included the following categories: worst and best experiences, surprises, realizations, sources of support, self-talk, initial and revised career interests and goals. Categories were next grouped as context, intrapersonal, or interpersonal. In the final analyses, categories were mapped onto theoretical constructs from Perkins’ triadic model of dispositions - sensitivity, recognition, and skill, which I termed perceive, process, and perform - and from Vygotsky’s cultural historical approach to development - historicity, mediation, and internalization. Historicity (genetic or contemporary) codes were related to sensitivity (perceive) codes; internalization codes were overlapped with recognition (process) codes;

and skill (perform) shared codes with mediation (scaffolded learning in the zone of proximal development).

Canons of Quality

This study must be confirmable and credible if the findings are to have any practical or theoretical significance. Approaches to assuring trustworthiness are as varied as the terminology. Lincoln and Guba (1985) referred to transferability and dependability as well as credible and confirmable. Marshall and Rossman (1999) defined trustworthiness as the overall soundness of the study, the practical significance of the findings, and the sensitivity and sensibility of the researcher. Merriam (1998) described trustworthiness as the congruence between findings and reality, termed internal validity, and the consistency in findings, termed reliability. According to Yin (2003), the reliability of a case study can be increased with an organized and accessible database because other researchers can review evidence directly. In this study, data organization was enhanced by using ATLAS.ti, a computer assisted qualitative analysis software for textual and conceptual organization. For example, codes were hyperlinked to participants' quotes for easy retrieval. In addition, the density, meaning number of links with other codes, and groundedness, meaning number of data units with the same code, were displayed numerically with each code name in ATLAS.ti.

Other sources of trustworthiness included using multiple sources of data, which is sometimes referred to as triangulation (Strauss & Corbin, 1998; Yin, 2003). This study used multiple sources of data: observation data noted from participants' classrooms during focus groups or interviews; interview data transcribed from audio and video

recordings; questionnaires for demographic data about the participants; and documents including school accountability reports from the state department of education.

Yin (2003) extended the concept of triangulation to include multiple theories and methods, as well. This study used both cognitive and cultural-historical theoretical perspectives to interpret data, as guided by the conceptual framework in Chapter 2. The final way the study increased trustworthiness was to use multiple methods to extract meaning from the data. Case study and grounded theory were integrated. Most of the categories were constructed through open, axial, and selective coding from grounded theory. Some categories were constructed with domain analysis from anthropology (Spradley, 1980) or discourse analysis from sociolinguistics (Schiffrin, Tannen, & Hamilton, 2003). In summary, this study applied the canons of quality that were congruent with the sociocultural theoretical framework, the case study methodological traditions, and the research questions concerning developmental process.

Summary

The single case study, embedded design was congruent with the conceptual framework, research questions, qualitative design, and researcher's participant-observer role (Marshall and Rossman, 1999). In addition, the single case study, embedded design was integral to investigating the process of developing professional dispositions. The purposeful sample, educational setting, semi-structured interviews and focus groups, and grounded theory-based analyses were selected to answer the central research question -- how teachers come to develop professional dispositions. The single case was the process of disposition development and the embedded units of analyses were the affordances and

hindrances that mediated disposition development. Mediators included participants' levels of experience, career interests, career awareness, and opportunities for learning with a mentor. Chapter 4 will detail the analyses and present the key findings.

CHAPTER 4

DATA ANALYSES AND FINDINGS

The purpose of this case study was to explore how a sample of K-5 teachers, selected purposively, came to develop professional dispositions. In Chapter 1, I asserted that understanding the process of disposition development in teachers could have practical implications for teacher educators who assess candidates' professional dispositions. In addition, insight into the hindrances and affordances of disposition development might have theoretical implications for educational psychologists interested in intentional conceptual change and the dimensions of dispositions.

The conceptual framework described in Chapter 2 guided the analyses of the data. First, the concepts of learning, development, and dispositions were viewed through cognitive, social, and cultural-historical lenses. Second, dispositions were understood to be historically (genetically) influenced, socially constructed, culturally mediated, and individually shaped.

Chapter 4 will describe how the data were analyzed and synthesized in order to consider the processes of disposition development. Chapter elements include the processes and tools used for data organization and management; analyses at textual, conceptual, and componential levels; key findings as related to the research questions; and synthesis and interpretation of the findings. Direct quotes from participants in focus

groups and individual interviews, along with data from government and course documents, will illustrate coding schemes, patterns, and themes.

Data Organization and Management

Overview of Data Collection Protocol

During spring 2008, I conducted nine, in-depth interviews with 6 participants and facilitated four focus groups with 24 participants. Twenty-eight teachers had 2 years experience teaching elementary school, and 2 teachers had 6 or more years experience. The beginning teachers were in their mid 20s, and the experienced teachers were in their 40s. Three beginning teachers were interviewed once; two experienced teachers and 1 beginning teacher were interviewed twice. Twenty-four beginning teachers participated in one of four focus groups that had 3, 7, or 11 participants. Seven of the thirteen sessions were conducted at participants' worksites after the children had been dismissed for the day. Six sessions were held in a private conference room on the university campus where the participants were enrolled. As detailed in Chapter 3, all the teacher-participants were students in a graduate education course at the large, southwestern university. Of 50 students enrolled in the course, 30 students volunteered for the study, which was one option for completing part of the course requirements.

The research protocol was adjusted when 6 participants were unable to attend any of the scheduled focus groups. Instead of soliciting participants for individual interviews from the focus groups, I offered, instead, to interview each of the 6 participants individually, at their convenience, in lieu of their attending a focus group. In addition to two types of interview data - individual and focus groups, I collected a demographic

survey from each participant, course essays from 4 participants, online documents from the state education department about the five elementary schools where focus groups or interviews were held, and made observations of five teachers' classrooms while conducting the interview or focus group sessions. Participant and school site demographics are in Appendices H and I.

Qualitative methodology literature has suggested that using multiple viewpoints of specific events, multiple sources of data, and multiple methods can enhance the internal validity or trustworthiness of a study (Merriam, 1998; Strauss & Corbin, 1998). By incorporating the perspectives of beginning teachers as participants in focus groups and individual interviews, the scope of data collected was both broad and deep (Morgan, 1997). In addition, as data were collected and analyzed, two teachers with experience became key informants with whom I could check my formative interpretations, enhance my awareness, and, ideally, reduce researcher biases (Strauss & Corbin, 1998). In using two members to comment about other members from the same graduate course, I needed to assure that confidentiality would be protected. Consequently, I used the confidentiality guideline that all focus group members agreed to: Outside the group, they could describe and discuss issues or topics raised, but no group member could be described in any way that might identify them. Similarly, I did not describe other participants to either key informant in a manner that might identify the participant. Instead, I described the issue or the essence of the comment. Confidentiality was facilitated, also, by the makeup of the online class. Most of the students were beginning teachers and were members of a cohort in the graduate program. While cohort members knew one another from face-to-face courses, the two key informants were not part of that group.

ATLAS.ti

Document management. A Qualitative Data Analysis (CAQDAS) program, ATLAS.ti version 5.2, was utilized to assist with organization, analysis, and retrieval of data. Verbatim transcripts of the interviews and focus groups were saved in Rich Text Format for storage and management within ATLAS.ti. Transcripts were named with an identification code that had been assigned to each focus group or interview. Participants were assigned identification codes that incorporated interview or focus group codes with gender and race/ethnicity data.

Support of data analysis. ATLAS.ti facilitated analyses of the data at textual and conceptual levels. After units of data were described by open codes, several types of conceptual analyses were available for model building: visualization, integration, serendipity, and exploration (Lewins & Silver, 2007; Muhr & Friese, 2004). For example, in a deductive mode for constructing themes, the data could be interrogated to find codes that occurred together. In an inductive mode, coded data segments could be aggregated for generating higher level concepts. Details about coding and analysis will be described in the next section of this chapter.

Analyses

Qualitative data analysis has been described as a complex process of meaning making accomplished by combining, condensing, and interpreting the data (Merriam, 1998). Before segmenting and reconstructing the corpus of data, however, I played back each audio and video recording, without pauses, at least once, as recommended by Erickson (2006). After each interview and focus group was transcribed, verbatim, analyses

proceeded from concrete, descriptive levels to increasingly abstract, thematic levels. Data analyses, which were concurrent with data collection, yielded insights with practical applications for subsequent interviews. For example, after conducting a few sessions, I observed that participants could recall, rapidly and with animation, the factual and emotional details of their worst teaching experience. As a result, I began asking for worst day stories early in the session in order to prime participants' recall for other questions.

Category, Property, and Dimension Codes in Grounded Theory

Coding, which is the application of brief descriptors to units of data, facilitated the retrieval of specific units of data (Merriam, 1998). Grounded theory guided the analyses of the data and coding procedures. According to Strauss and Corbin (1998), coding categories are defined by their specific or general properties. Category properties that can be described within a range or on a continuum are represented by dimensions. I will use the concept of Mediators to illustrate how categories, properties, and dimensions were used as a coding scheme.

Properties of the Category. In defining the category of Mediators, I used Vygotsky's cultural-historical approach to development from the conceptual framework: Dispositions are socially constructed and individually shaped. Social construction occurs interpersonally through interactions with others, and individual shaping occurs intrapersonally through the process of internalization. The properties of the category Mediators (of disposition development), therefore, were coded as Interpersonal, Intrapersonal, and Extrapersonal. The Extrapersonal properties of mediation concerned the cultural context.

Dimensions of Properties. The properties of mediators, which were interpersonal, intrapersonal, and extrapersonal, were defined more specifically by their dimensions. The dimensions of extrapersonal properties included low- or high-performing school, small or large number of students with special needs, and low- or high-percentage of students who do not speak English. The interpersonal properties of mediators included, for example, the dimensions of: mentor availability, always or never; parents involved or invisible; and other teachers more or less knowledgeable. The dimensions of intrapersonal mediators that were relevant to the research questions included minimal or extensive background knowledge of teaching, high or low commitment to teaching as a career, and flexible or firm problem-solving. Table 4 gives another example of how three categories were defined by their properties and dimensions.

Table 4.

Examples of Coding in Grounded Theory

<i>Category</i>	<i>Properties</i>	<i>Dimensions</i>
Extrapersonal	Cultural	Percent of students with IEP
	Institutional	School did not meet Annual Yearly Progress goals Attrition rate of new teachers
Interpersonal	Teacher Mentors	Availability, helpfulness
	Parents	Level of involvement
	Students	Level of complexity for differentiated instruction
Intrapersonal	Historicity	Level of background knowledge related to teaching
	Sensitivity	Incidences when need for empathy was recognized
	Inclination	Demonstrations of tendency towards flexibility

Levels of Analyses

Data analyses were performed at four levels, as specified by Harry, Sturges, and Klinger (2009). The first level of analysis began with open coding to name events and actions, then concluded with comparisons among the data. The second level of analysis entailed axial coding to group similar open codes. Axial coding was based on my understanding of category properties. The third level of analysis involved selective coding of themes that were embedded in conceptual categories. At the fourth level of analysis, themes were tested for relevance to interview data.

Level One Analysis, Open Coding, Textual, Descriptive

All transcript data were coded, initially, at a descriptive, textual level in an inductive, microanalysis of the text. A constant comparative method was used to code each document line by line in an iterative process as new transcripts were analyzed (Strauss & Corbin, 1998). Merriam (1998) recommended that each unit of data be the smallest possible that can still be interpreted without any other information. The first level code scheme began with 102 codes, which are listed in Appendix J, for 676 units of data from interview transcripts.

Textual coding with ATLAS.ti. The basic textual coding procedure within ATLAS.ti follows: First, transcript documents were retrieved and opened within ATLAS.ti text editor. Next, I read each line and selected a meaningful unit of text, which could have been as small as a word or phrase, or as long as several paragraphs. Third, I created or assigned a descriptive code. Initial codes were taken from participant's quotes, which is called in-vivo coding, from the theoretical constructs and interview topics, and from the researcher's understanding of the category. Table 5 depicts grounded coding.

Table 5.

Analysis Categories Grounded in Data and Theory

Research questions	Categories
<i>Semi-structured interview topics</i>	In-vivo, researcher-assigned, theoretical
<p>What professional dispositions did participants perceive as being most important?</p> <p><i>What attributes should a teacher have?</i></p>	<p><i>Dispositions</i></p> <p>In-vivo : Caring, Creativity, Empathy, Flexibility, Patience, Responsibility, Persistence, Humility, Passionate, Organized</p> <p>NCATE: Fairness. Belief that all children can learn (incremental theory)</p>
<p>What professional dispositions were evident in participants' reflections about their classroom experiences?</p> <p><i>Describe your worst day.</i></p> <p><i>Describe your best day.</i></p>	<p><i>Mediators</i></p> <p>Researcher-assigned: Student behavior; parent involvement; administrators; instruction complexity and breadth</p>
<p>What factors afforded/hindered participants' development of professional dispositions?</p> <p><i>How did you decide to become a teacher?</i></p> <p><i>What were your expectations about teaching?</i></p> <p><i>Describe a realization, surprise, or "a-ha" moment.</i></p> <p><i>What did you do when you didn't know what to do?</i></p>	<p><i>Interests</i></p> <p>In-vivo: "Called"</p> <p>Researcher: Inspired/recruited, no options"</p> <p><i>Expectations</i></p> <p>In-vivo: teachers only teach, done at 3, how hard can it be?"</p> <p><i>Surprise</i></p> <p>In-vivo: always someone to ask; no one to ask</p> <p>Researcher: Necessary but not sufficient: intelligence, effort, intention</p> <p><i>ZPD</i></p> <p>In-vivo: Cried, Burnt, Prayed, No one knows what works</p>
<i>What is your career plan at this time?</i>	<p><i>Future career plans</i></p> <p>Leave classroom, leave education, stay long term, stay short term, return to school</p>

Descriptive codes. Almost all the participants contributed stories about their worst and best experiences, surprises, realizations, sources of support, self-talk, initial and revised career interests, and future plans. For example, worst experiences included uncontrollable student behaviors, perplexing learning deficits, frustrating lack of administrative or colleague support, and unexpected feelings of incompetence. Another code, expectations and realities, captured critical incidents of cognitive dissonance. The teachers described their surprise at: how difficult teaching was despite their effort, commitment, and intelligence; how much time they devoted to planning; how they perceived their skill development as slow; and how overwhelmed they felt by the numbers of students in their class with behavioral or learning issues.

Example of level one textual coding. To illustrate the initial coding process, I will describe how the category of context mediators was constructed from the transcript of Focus Group 4. The members were three females in their mid 20s with two years of teaching experience at a low-performing, urban school. They were unique from other groups because all the teachers were from one school, which was the location of the group, and the majority of their comments were about their disappointments and discouragement as teachers.

Alicia was Caucasian, age 23, held an undergraduate degree in anthropology, and had taught kindergarten for two years. When she fulfilled her two-year teaching contract at the end of the school year, she would begin law school. Shivan was African American, age 24, held an undergraduate degree in sociology, and had taught second grade for two years. Shannon was Caucasian, age 24, held an undergraduate degree in psychology, and had taught second grade for two years. Shannon and Shivan had three-year teaching

contracts.

Shivan said, “Track 7, third grade is the worst track. It's the lowest students, the least involved parents, the worst vacations.” Alicia added, “A lot of our kids have three strikes already. They're not in a great community, our school is ‘eh’, and their family is horrible. So, where do they go? They're not going to succeed.” The third group member, Shannon, noted, “There is absolutely no one in my school that I feel confident that is going to tell me something I haven't tried. The administrator ...you go there and you feel like you're given more roadblocks than ideas.” Inductive coding of the textual descriptors included: lowest students, uninvolved parents, worst vacations, three strikes, poor community, eh school, horrible family, students cannot succeed, administrator roadblocks, no help.

Deductive coding of the text involved questioning the data about the stakeholders, actions, and interests. The data indicated that students, parents, community, and administration were mediating the teacher's disposition development within a school context of no mentors. School and district expectations and standards impacted whether mentors were available. Students, parents, community, and school administration were coded as Context, a property that described the category of Mediators.” Worst track, lowest students” was coded as Mediator:Context:Students and “least involved parents” as Mediator:Context:Parents. Table 6 illustrates another example of textual, descriptive coding at the first level of analysis.

Table 6.

Level One Textual, Descriptive Codes Construction

Category Codes	Expectation	Surprise	Cognitive dissonance
Beginning teacher (Joyce)	I teach 4th grade...	...but I must teach students at grade levels 1, 2, 3, and 4.	
		No one has the answers.	I don't know what to do.
	Career role	Scope of duties broad Resources for learning lacking	Opportunity for learning

Note: Joyce is Caucasian, 23, has a BA in Finance, and is a beginning 4th grade teacher.

Level Two Analysis, Axial Coding, Comparative

The comparative level of coding involved axial coding, according to Strauss and Corbin (1998). At level two of analysis, I organized data into categories according to selected and specified properties. Deconstructed data were reconstructed into new patterns and categories, which suggested intervening conditions, interactions, and consequences. Strauss and Corbin noted that theory should be grounded in concepts that have been defined by unique properties and dimensions. I aimed to forestall any imposition of coding taxonomies, however, before initial coding was nearly completed.

In this single case study, the case was the process of disposition development and the units of analyses were the mediators of development. The units of analyses were embedded within the process of disposition development. Each embedded unit became a category of mediator of disposition development. Experience, as a mediator and unit of analysis, was used to construct new categories. Figure 3 illustrates how the case, Process of Disposition Development, included the category of Teacher Experience. The dimensions of Teacher Experience were defined as follows: apprentice (up to 5 years experience), journey level (up to 10 years experience), and master level (10 or more years

experience). Teacher Experience was specified further by the number of participants at each level. Inez (16 years) was the only master participant, Kris (6 years) was the only journey level participant, and the other 28 participants were at the apprentice level with 2 years experience.



Figure 3. Embedded units of analysis mediate disposition development

Experience as a property of the process of disposition development. The Matrix of Experience and Mediators in Appendix K illustrates the similarities and differences in affording and hindering mediators between experienced and beginning K-5 teachers. Two participants were experienced – Inez and Kris. Kris, in her 40s, was a journey level teacher with seven years experience. She left a business career to pursue a degree in

education. Kris participated in a cohort model of elementary teacher training in a professional development school. Her experience, models, and mentors may not be typical of most teacher education programs. Kris had taught grades 2 through 5, held a TESOL endorsement to teach English as a Second Language, and had been a reading specialist in middle school. Her Girl Scout Leader had been her model of someone who could create opportunities for others to excel, and Kris wanted to emulate these qualities.

Kris responded to my inquiry about beginning teachers' perception of the lack of experienced mentors who could help them function within the expected standards.

I know there's two factions. People who have been in it, and so they see themselves retiring and want to stay the duration for the retirement. They don't have the heart or the fire that they used to. There's got to be those people. I somehow have never worked with many, <but> you always run into a couple. But, in my own mind, I see it as, there's not that many of those. You talk to other people, and they seem to be working at a school that's full of them. Just, non-motivated and disheartened and disgruntled, and--I just don't know the numbers. The other side of the coin is obviously the people who aren't in it for the high salary (laughs), but for the calling or for what they can accomplish to get kids to see.

Kris had a broader perspective than novice teachers who had viewed older, "old school" teachers as unhelpful. Kris thought the unmotivated teacher was more rare. However, Kris had been trained in a cohort and exposed to a number of teachers, in addition to her experiences in other schools and grade levels. Kris was one of the "called" teachers. This

factor seemed important as a mediator to hinder or afford disposition development. Table 5 illustrates the juxtaposition of career awareness and reasons for becoming a teacher.

Career interests: Inspired, Interim, Considered. Teachers who felt called to teaching were categorized as having an Inspired Career Interest. Participants who were recruited to teach and expected to pursue another career after completing a two to three year contract were coded as having an Interim Career Interest. Participants who had chosen teaching as a career after eliminating other options or were considering teaching as a long term career were coded as having a Considered Career Interest. Of the three categories of career interests, participants with an Inspired Career Interest appeared to be most likely to remain in teaching when confronted by an obstacle that required personal change, learning, or development. Examples of obstacles included lack of time and lack of teacher support from administration. Teachers who had an Interim Career Interest initially, could develop a Considered or Inspired Career Interest later as they deepened their knowledge of occupational demands. Occupational knowledge was categorized as Career Awareness.

Career awareness as a property of the process of disposition development. The participants varied in their level of Career Awareness, which was categorized as low, moderate, or high. For example, Shannon, the beginning second grade teacher, did not start with background knowledge related to teaching and was coded as having a Low Career Awareness. “I thought teaching might be cool, maybe it would be something I would want to do as a career, but I really didn't have very many plans.” Another participant who taught kindergarten at the same low-performing urban school said, “I didn't do education in college, so I was kind of thrown in there” (Alicia, Caucasian

female, age 23, undergraduate degree in psychology). This was coded, also, as Low Career Awareness.

Theory-based coding. In addition to using embedded cases as categories and properties, another strategy to define category properties and dimensions, as recommended by Strauss and Corbin (1998), was to use selected theoretical constructs from the conceptual framework, which is in Chapter 2. For example, Perkins' et al. concepts of Sensitivity, Inclination, and Ability from the triadic model of dispositions (1993a) were coded as Perceived, Preferred, and Performed, which were my interpretations of the concepts. Vygotsky's cultural-historical approach populated other theoretical categories such as historicity, mediation, intrapersonal, interpersonal, and internalization. In Vygotsky's theory of development, learning and development are historically (genetic) rooted, socially constructed, culturally mediated (via appropriation of tools, zone of proximal development, mentor, teacher), and individually shaped (via internalization).

Level Three Analysis – Selective Coding

At the third level, a more abstract, macroperspective of the data was developed by reconceptualizing groups of categories into larger themes. Ideally, one core code would describe most of the variance in the pattern of behavior seen in the teachers. For example, rather than focus on the discrete dimensions of disposition such as Perception or Sensitivity, Preference or Inclination, and Performance or Ability, data analyses were directed towards the global dimensions of dispositions. Consequently, level three coding involved the affordances, hindrances, and antecedents to disposition development.

Affordances. “I have to step back and say, ‘What am I doing that’s promoting this sort of sentiment within my students?’” Kayla, an African American female, age 23, had two years experience teaching third grade and held an undergraduate degree in the Humanities. She began teaching with a goal of becoming an attorney at some point in the future. However, after she considered teaching further, she decided on an education related career. The following passage is long, but illustrates Kayla’s disposition of reflectivity as her understandings deepen with prompts for additional details. When faced with students who were not successful, she looked deeper to her own skills and dispositions:

The worst day that I've had so far came about, I don't know, two months ago, when one of the students raised their hands and said, "Arnie's so smart, but I'm dumb." And then the other kids chimed in, "Yeah, I'm dumb too." And so to have 60% of my class feel that they were dumb, that was the worst day for me. I just stopped, and I had them write about why they felt that way. To actually read what they felt was a rough day for me.

Kayla has demonstrated the disposition of empathy at this point. Empathy is key for a teacher to convey understanding to a student (Rogers, 1957). Kayla continued:

Because, I really work hard to promote good classroom culture, and I really work hard to encourage the kids to take risks, but to see that they still felt that they were dumb, that was a really hard pill to swallow. It was trivial things, ‘Well I feel dumb because I don't get an A on all the assignments.’ Having a discussion about that was, I would say, the worst day I've had teaching because that just shows that self-esteem issues are developed early. That was my worst day.

I: And you felt responsible?

K: I felt responsible.

I: Do you still feel you're responsible?

K: Yes. Because, even if a student felt that way prior to coming in my class, I just feel that we have different mechanisms within our classroom environment that encourage that we're super smart, and we try, and we work hard. So I still feel responsible that they feel like they're dumb. I have to step back and say, 'Well, what am I doing that's promoting this sort of sentiment within my students?'

I: What did you come up with?

K: I'm still working on it because I'm trying to figure out what I'm doing. I've said, 'Well maybe I don't give enough wait time when I ask a question, or maybe I don't come back to a student often enough after they've gotten something wrong.' I'm trying to find ways to remedy that.

I: You said that 60% felt dumb.

K: Yes.

I: So that 40% apparently didn't.

K: No, so that's good!

I: Did they write about why they felt smart?

K: Mm hm. One of the students said, 'I'm not dumb.' She said, 'Everybody's smart. We're all smart in different ways. We all have something that we're really good at.' And she said, 'I'm really good at math.' Another student said, 'Well I know I'm smart because I believe that I'm smart, and my teacher tells me I'm smart, and my parents tell me I smart, and I get good grades.' So, there are

students in my class that realize they are smart, but, unfortunately, when we hear that kind of news we always focus on the negative, and we really don't take the time to step back and look at the positive.

Kayla used the pronoun “we,” which may have indicated the sense of community she had strived to develop with her students.

I: What do you think the difference is between the two groups of students, since you were the same teacher?

K: Ironically, that's what I was trying to figure out--who said that they were smart and who didn't. And the kids that fell in the different groups--I gave them the same attention, I gave them--They were within the same community groups, so I didn't understand. It's almost like when you have children that live in the same household, have the same parents, they have the same relationship with the parents, but then grow up and say, ‘Well, Mom hated me, Mom loved you; Dad hated me, Dad loved you.’

I: If you had a magic wand and could have any wish you wanted, what would you change about the education system or about your classroom?

K: If I had a magic wand, I would wish that every child in America was on grade level and headed down the right life's path. That would be my magic wand.

Kayla emulated a teacher who felt called or inspired, but she had not yet committed fully to becoming a classroom teaching. She also conveyed intrapersonal qualities of a resilient, persistent teacher with the disposition, according to NCATE, to believe that all her students can learn.

Surprise as an antecedent to cognitive dissonance and change. Figure 4 illustrates the conceptual network of constructs within the transcript data that were related to Surprise. The first bracketed number represents the code's groundedness, which is the number of quotations in the data that are linked to the code. The second number represents density, which is the number of other codes to which this one is linked. Surprise is grounded in 17 units of quotation data and is linked to four other codes (density). Appendix L shows the hierarchical relationship of the initial open codes. The illustration is a code family that I created in the process of conceptual data analysis. When ATLAS.ti was queried, all quotes were available; quotes were labeled with the unique ID code I assigned to each participant.

At Level Three of analysis, selective coding Surprise was accomplished inductively from the data and deductively from cognitive dissonance theory. Within the interview database of ATLAS.ti, Surprise was linked to the inductive code categories of worst day and time. Surprise was linked to the deductive code category of dissonance. The properties of the Surprise category included the scope of teacher duties, the complexity of learning deficits, and the time constraints in teaching. Each property was grounded in the data. At a thematic level, the properties of Surprise were coded selectively as interpersonal, intrapersonal, or extrapersonal Surprise.

Surprise is linked to the deductive code Mediator, which is grounded in 77 units of data and linked to eight other codes. Mediator was a Vygotskian construct from the conceptual framework. The data supports Mediator as an important construct, given the groundedness and density of the code. Nearly every other significant code for disposition affordances or hindrances can be described as a Mediator.

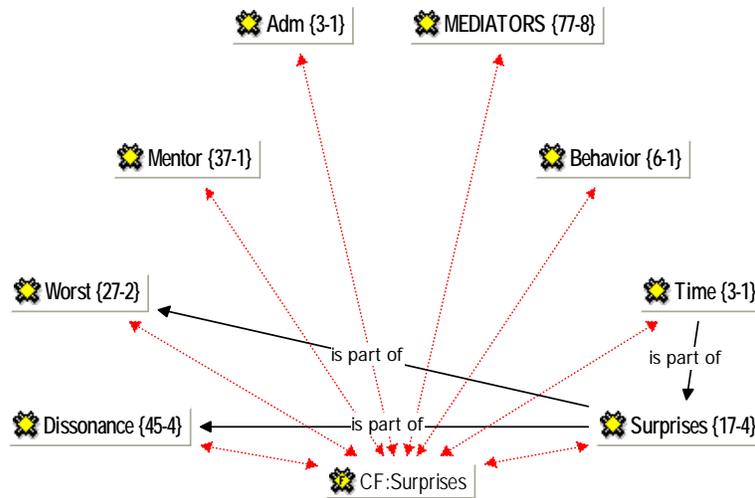


Figure 4. Category network map: Surprise as a Mediator of disposition development.

Dimensions of Surprise

Several dimensions of Surprise were coded from the participant’s responses. A sample of transcript quotes coded for Surprise can be found in Appendix M. Note that no spaces appeared between words in the code. Using camelback naming facilitated recall of data from the ATLAS.ti database. Dimensions of Surprise included the breadth of duties, ScopeDuties, and the complexity of learning needs, SpecialNeeds. Several examples follow.

Scope of duties. “I had a kid that needed glasses. I don’t know anything about eyes. There are just so many other things besides teaching. That was the biggest surprise” (Male, Caucasian, mid 20s). Extrapersonal Surprise: ScopeDuties

Complexity. “I expected issues from kids - behavior or not being inspired. But I was surprised that kids were coming to tutoring and were still two to three grade levels behind” (Female, mid 20s, Caucasian). Extrapersonal Surprise: SpecialNeeds. A male,

mid 20s stated, “I teach 5th grade. My kids say they learned it in 3rd grade. And I thought this is going to be great, just some review. The kids don’t know what was going on.” He explained that two-thirds of the class cannot answer the first example when they believe they have already learned the material. “They don’t know that they don’t know.”

Extrapersonal Surprise: Learning Deficits

Time constraints. Several teachers were dismayed that time was inadequate to cover necessary material. One female, mid 20s lamented, “I thought I’d have more time to cover what we needed to, but we didn’t have time to go back and the kids got further and further behind.” Extrapersonal Surprise: Time

Level Four Analysis - Theme Development

At a more global perspective than Level Three, Level Four compares and contrasts across categories and across the properties within a category. With recursive analyses, themes were developed that built upon participants’ actions, thoughts, and emotions, which were the indicators of their unique processes for developing professional teaching dispositions. Among the category contrasts were Perkins’ and Vygotsky’s theoretical constructs. In Table 7, categories based on Perkins’ and Vygotsky’s theoretical concepts from the conceptual framework of the study are compared and contrasted. Components from Perkins’ triadic model of disposition – sensitivity, inclination, and ability – were contrasted with components from Vygotsky’s theory of development – historicity, mediation, and internalization. Perception, which Perkins referred to as Sensitivity, is affected by Vygotsky’s historicity, specifically ontogenetic development.

Table 7

Componential Analysis: Mediation, Disposition, and Development

	Sensitivity	Inclination	Ability
Historicity	Personal and distal history mediates and is mediated by Sensitivity	Personal and distal history mediates and is mediated by Inclination	Personal and distal history mediates and is mediated by Ability
	Ontogenic development		
Internalization	Internalization mediates and is mediated by Sensitivity	Internalization mediates and is mediated by Inclination	Internalization mediates and is mediated by Ability

In Table 7 Sensitivity, inclination, and ability are the three components of Perkins' et al. (1993a) model of dispositions. Historicity, mediation, and internalization are cornerstones of Vygotsky's theory of development (1987).

The most global theme relied upon the most frequent issues raised by the beginning teachers: mentorship, complexity, career path options. As a result, the theme of disposition development processes was framed by the mediators of development that could either afford or hinder the process. Mediators were categorized as interpersonal, intrapersonal, or extrapersonal. Disposition development mediators were found in the data categories that follow in the next section.

Major Findings

This study viewed the process of disposition development through a Vygotskian lens. In Vygotsky's theory of development, learning precedes development, and development occurs, first, interpersonally and second, intrapersonally, which concerns internalization (Vygotsky, 1987a, 1987b). Disposition can be developed interpersonally, for example, with a mentor, when an opportunity for learning occurs. Opportunity for learning may result from the state of cognitive dissonance. From intentional conceptual change theory, surprise precedes cognitive dissonance (Hatano & Ignaki, 2004). Mediators of disposition development include, therefore, the mediators of cognitive dissonance. As presented in Chapter 2, the mediators of cognitive dissonance are, according to Hynd (2003): commitment, effort, incentive to change, the perception of choice, awareness of consequences, and acceptance of responsibility for consequences. Figure 5 illustrates the process of disposition development in a flowchart format.

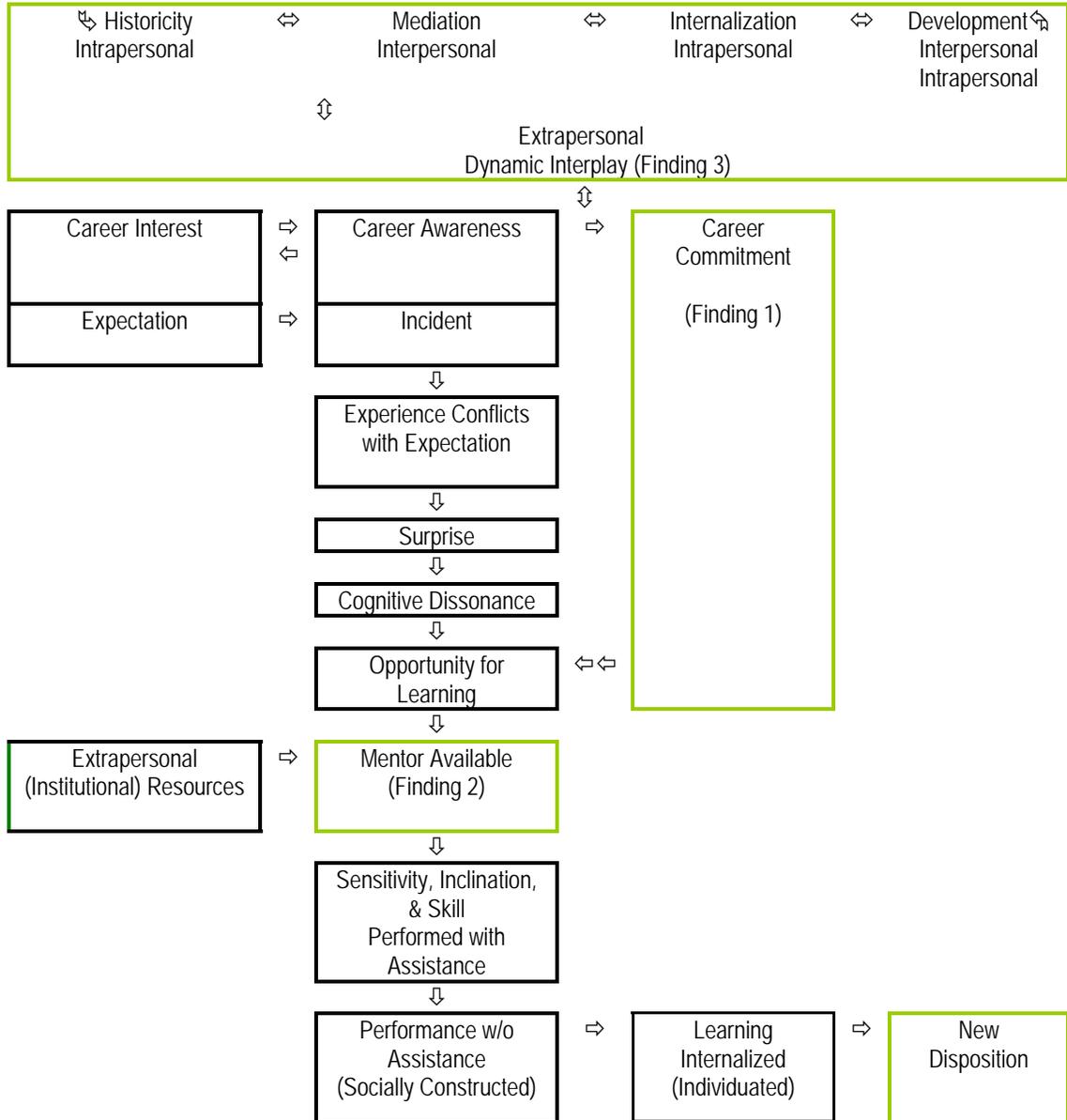


Figure 5. Findings: 1) Commitment, 2) Mentor, and 3) Dynamic Interplay mediate disposition development.

Historicity, a Vygotskian concept, concerns background knowledge, career interest, expectation, and extrapersonal resources. Career Interest is mediated by Career Awareness; initial expectations of teaching may be based on a personal experience of

school that is not relevant for current school cultures. Career Awareness and Career Interest determine the level of Career Commitment, which is explained in Finding One. The other findings concerning disposition development mediators were mentor availability and dynamic interplay of development concepts.

Theme 1 Commitment

In this study, the commitment to teaching was defined as a career interest based upon knowledge of the occupational requirements, self-assessment of personal and professional assets and liabilities related to teaching, and an understanding of the challenges that teachers experience. In conceptual change, commitment was one of several personal attributes that mediated the influence of cognitive dissonance and openness to change. Most of the participants were from alternative licensure programs that offered a shorter period of teacher preparation than traditional teacher education programs. Prospective teachers might have been familiar with the scope of duties teachers are expected to perform from working as a teaching assistant. Some might have understood the sociocultural milieu in which they would work or were aware of personal attributes that would be assets or liabilities to teaching. Within Theme 1, disposition development was afforded or hindered by the presence or absence of intrapersonal mediators.

Theme 2 Mentoring

Without a mentor to provide assisted learning that is optimally challenging, disposition change is preempted. Teacher attrition or teacher stagnation may result. Disposition development is afforded or hindered by the presence or absence of interpersonal mediators.

Theme 3 Dynamic Interplay

Mediators affect other mediators, making for a dynamic interplay among the potential instigators of change. The juxtaposition of extrapersonal, interpersonal, and intrapersonal mediators can determine the performance responses of the teacher. For example, institutional (extrapersonal) factors (number of students with special needs, complexity of student needs, availability of resources) affect the influence of intrapersonal and interpersonal mediators. Within the category of intrapersonal mediators, career commitment can be influenced, similarly, by the dynamic interplay of career awareness and career interest dimensions.

Next, detailed evidence will be provided to support each theme.

Theme 1: Commitment to the Profession

In this section, I will discuss the affordances and hindrances to disposition development that were mediated by career awareness and reasons for becoming a teacher. High Career Awareness coupled with a High Career Interest led to robust Career Commitment. Low Career Awareness coupled with Interim Career Interest created a view of teaching as an interim job and garnered less commitment to the profession.

At the first level of analysis, reasons for beginning a career in teaching were identified from the participants' own words: altruistic goals, calling, mission, no other plans. At level two of analysis, the reasons for becoming a teacher were grouped into three categories: Inspired teachers view teaching as a calling; Interim teachers did not have plans to remain in teaching, but wanted to teach for two to three years before pursuing graduate or professional degrees. Considered teachers were uncertain if they

would remain in teaching. Although Considered teachers did not feel called initially, they carefully considered the positive and negative aspects of the being a teacher. Considered teachers could become more or less enthusiastic about teaching depending, in part, on the affordances and hindrances to disposition development.

At Level Three Analysis, the three categories of Inspired, Interim, and Considered reasons for becoming a teacher were subsumed under the selective code of Career Interest. Consequently, Inspired, Interim, and Considered became properties of the category Career Interest. The dimensions of Inspiration, Interim, and Considered were levels of interest: High, Moderate, or Low.

Levels of Career Commitment

Table 8 represents the level and malleability of Career Commitment as a function of Career Awareness and Career Interest levels. Several examples from the data illustrate the relationships between the concepts.

Table 8.

Career Commitment (CC), Career Awareness, Career Interest

Career Awareness		Career Interest	
	Inspired	Considered	Interim
High	High CC (Inez)	Moderately High CC (Joanne) increased from Moderate CC (Joan)	High CC within time limit
Moderate	Moderately high CC	Moderate CC increased from Low CC (Kayla)	Moderate CC within time limit (Kayla, Ed)
Low	Moderate CC	Low CC	Low CC (Alicia, Shivan)

Career Interest

Interim Career Interest. Some participants chose to be K-5 teachers as preparation for other careers, which oftentimes related to educational policy or research. Teachers were said to have an Interim Career Interest when they were interested in a teaching as a time-limited endeavor. For example, Alicia was interested in pursuing a law degree and working in educational policy after she had gained experience as a teacher. When the level of interest was based on minimal knowledge of the professional roles and responsibilities, teachers were said to have a Low Career Awareness of teaching. Interim Career Interest and Low Career Awareness suggested a Low Career Commitment to teaching.

Considered Career Interest. As a teacher gained more knowledge of their expected roles and duties, Career Awareness shifted upwards to Moderate or High. If increased Career Awareness led a participant to consider teaching as potentially more than an interim career, Career Interest could shift from Interim to Considered. Consequently, a Low Career Commitment (Low Career Awareness and Interim Career Interest) could shift towards a Moderate Career Commitment (Moderate Career Awareness and Considered Career Interest).

Career Awareness

Low Career Awareness. Joan, Caucasian, age 25, held an undergraduate degree in elementary education. Her initial career interest, however, was not teaching:

I thought, 'I'll be a school psychologist.' And then I thought, 'Do I really want to hear kids' problems that could be even more sad than adults'?' So I thought, 'I love biology. I'll teach high school biology.' When I first got into the program, I

had to do observations at a high school. I realized I looked way too young to teach high school. I was getting asked for my hall pass. The students were saying inappropriate things.

High Career Awareness. Joanne, Caucasian, age 26, had taught fourth grade for two years and held an undergraduate degree in Music. She was an experienced violin teacher, and her father, who taught fourth grade as well, had exposed her to some knowledge of the profession.

Career Commitment

Increasing Career Commitment - High Career Awareness and High Career Interest - Considered. Some teachers did not feel called, initially, to teaching, but they developed greater interest in teaching over time. As awareness of the occupation increased, their interest and level of commitment increased. Joan's initial career explorations illustrated the importance of career awareness. She enhanced her awareness of elementary teaching, mostly through school experiences and jobs as a substitute teacher:

I don't know what I was thinking, wanting to do high school. And now I really don't want to be a psychologist, I don't even want to go back to that. So, it was a weird journey. It took me 5 1/2 years because I switched majors and worked full time.

Joan developed a High Career Awareness, High Career Interest, Considered, and High Career Commitment to elementary teaching:

I love it. I'm so happy doing this. I still love being in the classroom.

I had a good experience <in the teacher training program at the university>. I feel like mostly the practicums and, obviously, the hands-on stuff is what taught me the most. And I was a substitute too.

Reasons for becoming a teacher. Two of the participants (Inez and Kris) clearly illustrated the difference between a teacher who had experienced learning struggles and felt teaching was her calling and a teacher for whom learning had always come easily and teaching was an interim position on her career path.

Inez, Caucasian, age 44, undergraduate degree in elementary education and 18 years experience teaching 5th and 6th grade. She was personable, animated, and forthright during two in-depth interviews. Her motivation for becoming a teacher was the fact that she was not able to read when she reached the fourth grade, and that her previous primary grade teachers had not recognized her difficulties. Inez credited her fourth-grade teacher with identifying phonemic awareness as the source of her problem. Inez saw teaching as a calling to do for others what her fourth- and fifth- grade teachers had done for her. Specifically, she wanted to teach others to read who had not been able to learn how to read.

As a child, Inez' strategies for compensating for her lack of phonemic awareness entailed memorization as well as vigilance in the classroom for all occasions when she might be called upon to read aloud. Inez offered several examples of students who needed individualized and specialized instruction. One of her students was leaving the afternoon I arrived at her classroom for our interview. She told me later that the fifth-grade boy had gained three grade levels in reading comprehension over the eight months of the school year. He had accomplished this significant gain through after-school

instruction in phonics, which she provided one-to-one, and with encouragement to practice reading any print that he found interesting. Inez's classroom had been designated as the "intervention" classroom where students received additional, intensive instruction to address learning difficulties.

Inez conveyed her enthusiasm for teaching through her strong voice, laughter, and hand gestures. In contrast, when she spoke of her personal struggles learning to read, she broke eye contact, looked down at her desk, became still, and said in a barely audible voice, "I didn't know how to read." During our second interview, when I mentioned the contrast, Inez once again became silent, motionless, and appeared tearful. I concluded the topic by noting that her empathy could benefit her students and by assuring her she did not need to discuss the issue any further. She replied, "Well, no it was a...I'm just amazed that I got through that far without somebody catching on. But I've always been pleased that the fourth-grade teacher did." Inez then shifted the topic to the importance of post-secondary education. Inez was an example of Darling-Hammond's contention that teachers who have struggled with learning themselves may be more empathetic or more resourceful designing instruction specific to the learners' needs.

Kris, the other key informant, also demonstrated high career awareness and a calling to be a teacher. Prior life experiences seemed important in the key informants' decisions to become teachers. "From my Girl Scout leader, I learned to have confidence in myself. She could inspire me to do my best and a little more." When I asked Kris for a recent example of how she had pushed herself beyond her comfort level, she said she had earned her pilot's license. She went on to describe why she is a teacher: "I think there are two kinds of teachers – those who have a calling and those who do not. Also, some teachers

may have had an initial calling, but now they are waiting for retirement; they have lost their fire. Those who enter teaching for the benefits, such as summer off, they don't last." She expressed concern that "we who started <teaching> in 2000 are the last who started in a climate that wasn't all scripted." When the two key informant participants were compared to the other participants, the difference of experience as an affordance was immediately evident.

Examples of an evident hindrance from the study data were teachers who had made other career plans before beginning teaching. Ed embodied the concept of High, Interim Career Interest, Time Limited Teacher. He was Caucasian, age 23, and held an undergraduate degree in Spanish and a TESL endorsement to his elementary teaching credential:

When you're not doing this as a career you're willing, in general, to put in the hours. When you look at career teachers they get burnt out. If they do an incredible job, did the very best they could 10, 20 years, you would get burnt out. I mean, I would not be able to do it. And maintain the pace. (Everyone laughs). They could not, not get burnt out.

Interim Teachers' Future Plans

Most of the 11 participants in the fifth focus group were Interim Teachers who were not staying in teaching beyond two to three years. Some mentioned they had obtained what they had hoped to and felt that leaving after their second year was appropriate. I asked them, "What has changed about you that you're going to take away from this experience?" Participants described the skills and attitudes they'd learned and would take with them into their careers and personal lives, as demonstrated in the next two examples.

Marcia, Caucasian, age 23, held an undergraduate degree in International Relations and taught fourth grade in a low-performing urban school for two years:

I thought I was good at rolling with the punches before I got here, but the first year was a baptism by fire. It was more painful if you didn't change. What you can take into any job is the ability to think on your feet. You had to. Even if you don't like what's changing, you have to twist it to a way that works. Made me more confident to cope with whatever is happening. I think that is a very transferable skill.

Larry, Caucasian, age 24, held an undergraduate degree in Business, and taught fifth-grade math for two years in a low-performing urban school: "I think this will make me a better parent. I can look back on this and say, 'Maybe this is the path I'll take. Maybe this is the right one. Whether a kindergarten or high school teacher, you learn a lot. I can look back on this and say, 'Maybe'..."

To summarize Theme 1, level of commitment was influenced by initial career interest, level or awareness of job requirements, and self-awareness of one's strongest attributes. Without commitment, the effort of change could forestall learning and development of dispositions.

Theme 2: Mentoring

This section will describe the interpersonal affordances and hindrances to disposition development. Disposition development is mediated by the presence or absence of interpersonal mediators. Other interpersonal mediators included parents, colleagues,

principals, and the community. Figure 6 illustrates the coding scheme for interpersonal mediators as linked to the categories of parent, mentor, expectations, and mediators.

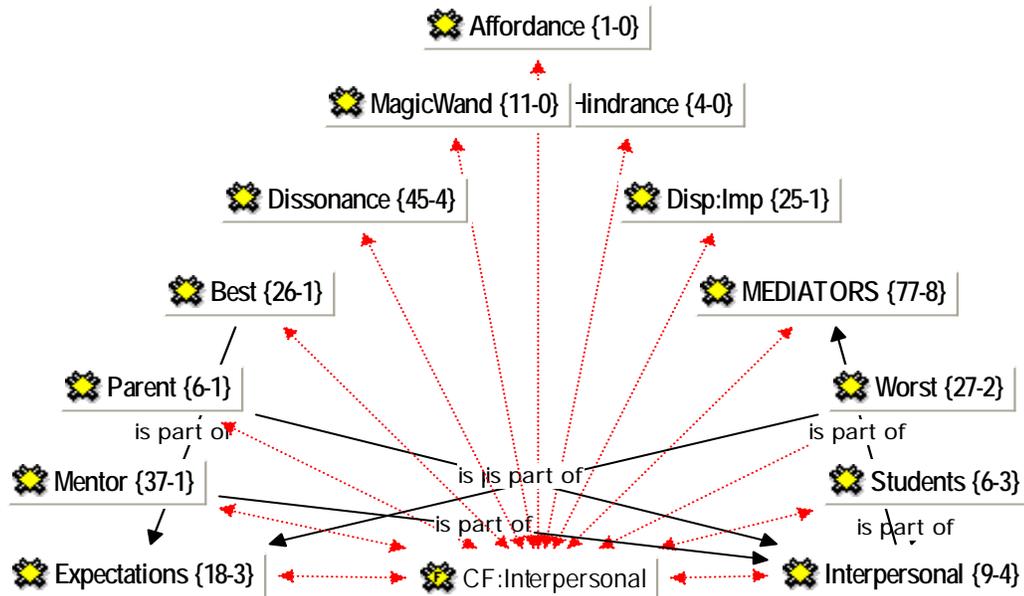


Figure 6. Category network map: Interpersonal code groundedness and density.

Mentors as Interpersonal Mediators of Disposition Development

The key interpersonal mediator was the presence or absence of mentors. Experiences of being mentored differed across participants: some experiences were hindrances and others were affordances. For some, mentors had been non-existent but desired. For others, mentors existed but were not available, or an available mentor had not been helpful. The value of an effective mentor was noted by one of the participants: “I’m not good at that and I tend to want to rely on myself, then try to find it out on my own. There are a couple teachers at my school I respect, so I started going to them more and more” (Diane, 24, Caucasian, Apprentice, Recruited).

In the next focus group excerpt, a second-year teacher (Jim) described his personal struggles with his more experienced colleagues:

Jim: First year, two teachers each 20 years. I went to them, two months into the year. I felt I was more involved in education than they were. I was team teaching. How can I, teaching for a month, say to someone with 15 years experience, “Listen, you have to step up.”

I: What did you do?

Jim: I laid low to start. Then I took more of a leadership role. This year I can confront them.

Jim was discouraged that he was viewed as the veteran, from his perspective. Another participant, Brian, offered a different perspective during the focus group:

There is so much variation in the district. Last year I had three to four mentors knocking on my door. Everyday, my mentor came knocking on my door. Her role is to focus on teachers in their first three years. “How did you do today? Are you ready for tomorrow?” Our school has a high ELL population. Language teaching through science. Our principal has done a lot of research on teaching through science. That’s a model that’s working. I’ve seen something that works.

The relationship of opportunities for learning to the need for mentors. The optimal time for learning is when new information has conflicted with existing belief, experience, or expectation, and cognitive dissonance has occurred (Hynd, 2003). Cognitive dissonance is necessary but not sufficient for change, however. According to Hynd, commitment, effort, incentive to change, the perception of choice, awareness of consequences, and acceptance of responsibility for consequences are needed as well. In

this study, participants' level of career awareness and career interest were used to gauge their level of commitment to teaching. Also, study participants were asked when they had been surprised because surprise is an element of cognitive dissonance (Hatano & Ignaki, 2003). Mentors can facilitate disposition development when cognitive dissonance has occurred due to conflict between experience and belief.

Opportunities for learning. Descriptions of the worst experience provided a rich source of data related to opportunities for learning.

One day he decided to throw a temper tantrum, and he goes over to his desk, because I sent him to his desk, and he pushes his desk over, and then he starts walking over the bulletin board and starts pulling down my border, and then he's going over and banging his head against the wall, and then he's coming over and kicking the bookshelf, and then he's walking around in a circle on my carpet. And all this other time my other kids are still, you know, there. And his friend is being ridiculous as well.

I had to call, 'Someone, come over here, just sit with my class or I'm about to lose my job because this child is going insane.' It was like a 40-, well, like a 30-minute tantrum that he threw, and it wasn't his first one. He had thrown another one where he was knocking backpacks down and slamming things and kicking stuff and throwing things. I had never had to deal with that before and it was really frustrating. He would sit there and, out of spite, he wanted to move and I said, 'No.' He would just start singing the ABCs at the top of his lungs while I was trying to teach. Do you respond to it? If I respond to it, the rest of the kids are lost. Do I teach through it? I had never, last year, never had to send one child. I

still have not had to send a child away from my room except that one kid. I couldn't teach. I just couldn't teach with him. He would go hide in the library, 'Someone come get me, someone come get me!' He would crawl under tables and it was a chain reaction because the other boys in my class would start acting up too, because I was distracted. I think that was the worst day, when he threw his temper tantrum."

In this passage, Alicia notes that her class last year did not have students who challenged her like the two boys in her class this year. She asked, "Do you respond to it?" Alicia described a state of dissonance that was heightened by emotions concerning the students' defiance and her own frustrations. In cognitive learning theory and in Vygotskian cultural-historical theory, dissonance engenders attention and movement towards a goal of ending the discomfort – in other words, an ideal opportunity for learning (Hynd, 2003). A coach, another teacher, or a mentor teacher could have assisted Alicia to understand the dynamics in the story she told. Unfortunately, Alicia had not found a teacher or administrator who could help her after this and other incidents:

We had a new teacher-mentor group last year. I don't think they really gave us behavior things. A lot of it was, 'This is a great idea for sight words. This is a great idea for this.' That was helpful to an extent, but in terms of problems like that...I guess there's, in theory, there's people out there. Well, I don't feel like anyone relates to my situation this year.

According to Alicia, no one was available to help her learn how to respond to the student. The problem resolved when, "He never came back from track break, which, you know I hate to admit it, but I was really happy."

Alicia had not developed a strong commitment to teaching in the two years she had taught. She was surprised at her lack of success with some students.

I feel like I'm never doing enough work. I am never going to make enough progress with some. I have one kid who's developmentally delayed. She doesn't communicate with you. She just stares at you. She still wears pull-ups. To do an activity that took my whole class 30 minutes to do will take 3 hours of me sitting with her, coaching her to get her to put something down. I feel like a failure because I just let her sit there a lot of the time because I don't know what to do with her.

Alicia was categorized as Low Career Awareness, Interim Career Interest. She had been affected by lack of a mentor. Members of a community can construct an opportunity for learning (Putney, Green, Dixon, Darwin, & Yager, 2005), but Alicia had neither a community nor a mentor to do so. Without a mentor to provide assisted learning that was optimally challenging, disposition change was preempted by either leaving the profession or remaining less effective than potential indicated. Alicia was in her second and final year of teaching; she planned to attend law school. "I'm going to do public policy and education, I want to stay in education but I don't think I would do classroom much."

Like Alicia, Shivon wanted to leave her teaching position at the end of the year, but she had already signed a contract for a third year. She was not sure what her next career path would be, but she was adamant she would not be teaching in a classroom. She was frustrated by her second grade students' difficulties with learning. For example, in

addition to giving individualized help, Shivon organized her students into small learning groups:

So for me to have to pull groups every single day with--overloaded with groups of students who don't get anything, so it's not like they're helping each other because they all don't get it. Okay, great. You didn't get it in whole group lesson, now I have to pull you back for small group or you're not going to get it again, and you're not having a peer who's modeling it for you because your neighbor doesn't get it either. But this is what I have to do every single day. It's ridiculous. I don't want to come to work anymore, it's so frustrating.

According to cognitive learning theory (Hatano & Ignaki, 2003; Hynd, 2003), cognitive dissonance can create the possibility for learning. As beginning teachers whose students had diverse learning needs, the participants in this study were often unsure what to try next, and when they did not know what to do, they said they sometimes had no one they could ask. Without someone more knowledgeable, such as a mentor, the opportunity for learning is lost.

Surprise as an affordance to disposition development. Surprise is a component of dissonance (Hatano & Ignaki, 2003) and essential to creating a learning opportunity. Consequently, after I asked participants to describe their expectations for teaching, I asked what had surprised them. The purpose of the question was to identify when and if there had been a state of cognitive dissonance. Hynd (2003) conceptualized cognitive dissonance as a metacognitive response to new information that has conflicted with an existing belief. She asserted that dissonance was necessary but not sufficient for conceptual change because dissonance could be mediated by individual characteristics.

The primary characteristics that affected cognitive dissonance were incentive, choice, commitment, consequences, personal responsibility for consequences, and effort.

Opportunities for learning would seem to be frequent in the early years of teaching. Learning is most powerful when the learner is in a state of cognitive dissonance (Hynd, 2003). In addition, learning is more likely to be successful when other prerequisites are satisfied such as commitment, effort, consequences, and choice. Given that the conceptual framework for this study is based on Vygotsky's theory of development, the concepts of assisted learning, scaffolding, mediation, and internalization are important. In Vygotskian theory, learning precedes development.

To summarize Theme 2, when an opportunity for learning occurs following a state of cognitive dissonance, and when conditions of commitment have been met, the lack of a mentor means a missed opportunity for the teacher to learn at the optimal moment.

Theme 3: Dynamic Interplay

Alicia, a kindergarten teacher, and Kayla, a third-grade teacher, shared some attributes. Both were articulate and passionate about teaching. Kayla had decided to continue as an educator in some capacity. Alicia was leaving teaching for law school. I wondered what would have happened if Alicia and Kayla had switched teaching assignments two years ago. Kayla had a supportive administration, one special needs student each year, helpful colleagues, and a reflective mindset. Alicia said she had no administration support, her colleagues were no more experienced or knowledgeable than she, and she had five students with special needs that frustrated and bewildered her.

Some teachers, such as Alicia, were in situations where the affordances were too few and the hindrances too significant. Others, like Kayla, had sufficient affordances to maintain optimism for their students' success. Kayla, however, had extrapersonal affordances that were not apparent for Alicia.

Kayla had institutional support for students with special needs: "They're awesome. I just ring the office. They're trying to find ways to help." Kayla was offered referrals for students and timeouts from disruptive students, she had only one special needs student each school year, and she had intrapersonal affordances that were not apparent for Alicia. Kayla conveyed a deep respect for her students as she spoke about them, "I've had the privilege to have taught two classes." Kayla seemed to focus on her own teaching practices rather than her students' perceived shortcomings. Kayla would ask herself, "What am I doing that's promoting this sort of sentiment within my students?"

Alicia, however, had multiple students with behavior and learning needs beyond her second-year teacher capabilities, and she had not received meaningful help from her school administrator. Alicia may have started teaching with high expectations for her students, but after two years she commented, "A lot of our kids have three strikes already. They're not going to succeed." If Alicia had taught at Kayla's school and been afforded the same level of administrator support and the low number of special needs students, Alicia may have expressed optimism for all her students and may have focused on her own teaching practices rather than her students' barriers to success.

Levels of Commitment as Affordances and Hindrances

High commitment. Teachers like Inez demonstrated a high commitment to their teaching career that was founded on substantial career awareness (High Career

Awareness). Both of Inez' parents had been teachers, and her undergraduate degree was in elementary education. Inez felt called to teaching, which was coded as Inspired Career Interest. She wanted to help students who struggled with reading as she had been helped by her fourth grade teacher: "If I can help one of them a year, cool. Because I know I'm not going to save all of them." After 18 years, Inez remained highly committed to teaching: "You know, I still love the kids. I still think that they are the most fun. I say, 'I have 4 kids at home and I have 26 at school.' I love them." Inez' High Career Awareness and Inspired Career Interest resulted in High Career Commitment.

Kris had been established in a business career when she decided to return to school to complete a bachelor degree in elementary education. She recalled asking herself, "What am I doing? I could be really having an effect on something." In addition, Kris wanted to emulate a teacher who had influenced her: "She had that teacher quality where she could inspire you to do your best and then go a little bit more." Kris had an Inspired Career Interest that she has maintained during the seven years she has taught. As her level of career awareness has increased (High Career Awareness), her commitment to teaching has increased. She reflected that she had not been as successful in teaching as she had hoped, "but, successful enough that I am happy." Kris's High Career Commitment seems to have been an affordance as she changed some of her initial beliefs about teaching:

I was one of those uninformed white people. The second year of getting second graders who were Spanish speakers...it was like night and day. Night and day. They had, I think, the same amount of English, but they were responding in this class in Spanish. They had the writing skills. And what I didn't realize until I was

TESOL-certified is that, if you're developing your native language, or any language, you're developing a language.

Increasing Commitment. Kayla, age 23, African American female. In addition to an elementary teaching license, she also has an endorsement to teach English as a Second Language. Kayla began teaching third grade as an Interim Career Interest teacher before starting law school. After teaching for two years, however, her awareness and interest increased, and she has shifted to considering teaching as a long-term career. She explained:

I realized that my grandiose plan of changing the world via the kids in my class can take place, but just on a smaller level, just inspiring change within my individual students. Before, I thought that I wanted to go to law school; now I don't anymore, so that's a big change. Initially I thought I was going to teach only two years, but that's changed because now I'm teaching at least three. I know that I want to stay involved with education.

Interpersonal affordances. Several interpersonal mediators influenced career decisions. Appendix N provides some of the reasons teachers stayed or left teaching. Appendix O provides three examples of disposition affordances and hindrances with different outcomes. With new knowledge and understanding about teaching, Kayla moved from the interim career interest to considered career interest category. Her commitment appears to be increasing. Whereas others' experiences may have lead to decreasing commitment over time, Kayla's has increased. Several mediators may have afforded Kayla's growing commitment to education. First, Kayla had interpersonal support from other teachers who mentored her:

The best thing is realizing that you're not alone and that there are people who are willing to help and you do have the support. You might have to seek it out a little bit more, but you do have the support. My grade level chair was very supportive, teachers on the team as well. Teachers who have been teaching less than five years reached out to make sure that I was okay because they remembered how it was your first year. In the beginning, they gave me tips on long-term plans, lesson plans, what to teach when, in terms of the benchmarks. 'You should do this unit here because at this age they're this and that.'

Extrapersonal affordances. Another affordance to Kayla's increasing commitment was extrapersonal support from school administration:

They're awesome. Any time the behavior is getting too extreme, I just ring the office, and they come and get him. And he has a work packet that they use in the office because he's a frequent traveler. They're trying to find ways to help with his behavioral problems. We've even suggested behavior counseling to the parents, but they've denied it.

Intrapersonal affordances. Kayla also revealed intrapersonal attributes that may have contributed to her increasing commitment to teaching. She spoke about her need to develop patience:

Kids are evolving people, and they don't know as much as we know. Just taking the time to let them think through whatever they're going to do, you can lead on a common ground and develop patience.

Kayla had developed insights into reasons underlying some students' classroom behaviors:

I've noticed this in both of my classes, that if a student is struggling with reading and they know that they struggle with reading, they become more introverted. During the reading block, even in reading groups, they're less likely to take risks with pronouncing words or contributing to discussions, and they always look to the teacher to reassure them. It's weird to see it develop so early, because my kids are 8 and 9.

Kayla has reflected on her own perceptions of her students:

The kids in the classroom that are more comfortable are the ones that are more likely to raise their hands, to talk, to help others, and that enthusiastic behavior could taint your judgment of their ability. The kids that are not comfortable, they retreat within themselves and it's almost like pulling teeth to get them to be involved. I could see how you would perceive that as some resisting to learning versus an unclear grasp of concepts.

Interpersonal hindrances. Moderate Career Awareness, Static or Decreasing Career Interest. Although other teachers in this study had begun teaching with backgrounds and intentions similar to Kayla's, their commitment decreased as they developed more career awareness and less career interest. Brian, Caucasian, age 26, holds an undergraduate degree in Humanities and an endorsement to teach English as a Second Language (TESL). He began teaching two years ago as an interim teacher. Unlike Kayla, he did not find administrators or other teachers who could be helpful mentors:

There is absolutely no one in my school that I feel confident that is going to tell me something I haven't tried. The administrator should be a leader in the field. You go there and you feel like you're given more roadblocks than ideas. In our

second year, most of us are considered like leaders. People come to us. It shouldn't be that way. That's pretty disgusting, I would say.

Similar to Brian, Ed elaborated on the lack of helpful mentorship from other teachers.

First year, two teachers, each 20 years. I went to them two months into the year. I felt I was more involved in education than they were. I was team teaching. How can I, teaching for a month, say to someone with 15 years experience, 'Listen, you have to step up!'

To summarize Theme 3, the dynamic interplay amongst intrapersonal mediators, such as commitment, interpersonal mediators, such as mentors, and extrapersonal mediators, such as institutional policies, determines the balance between hindrances and affordances at specific points in time for each individual.

Summary

Chapter 4 described how the data were analyzed and synthesized in order to consider the processes of disposition development. The processes and tools for data organization, management, and analyses at textual, conceptual, and componential levels were presented. Three themes comprised the major findings. First, mentors can facilitate opportunities for learning knowledge and skills that are prerequisites for developing dispositions. Beginning teachers in this study were sometimes afforded opportunities to learn because supportive mentors or peers were available. More often, the teachers expressed overwhelming frustration. Second, development of career commitment is essential to successful change. Cognitive dissonance and a mentor are not sufficient for change. Other requirements include commitment, as well as effort, choice, and

consequences. Commitment grows from realistic expectations about the profession and one's skills and attributes. Third, given the multiple interpersonal mediators besides mentors, and given the multiple intrapersonal mediators besides commitment, extrapersonal mediators, such as cultural context or institutional practices, influence the teacher's experience and potential for success. Chapter 5 will synthesize the analyses, discuss limitations, suggest theoretical and practical implications for the findings, and identify research needed in the future.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

This chapter will review, briefly, the conceptual and empirical bases for the findings presented in Chapter 4. I will discuss limitations of the study, theoretical and practical implications for the findings, and identify research needed in the future.

Conceptual and Empirical Bases for the Findings

The problem of conceptualizing the development of professional dispositions in teachers has stemmed from the existing view of dispositions as individual difference traits that are unlikely to change. Vygotsky's cultural-historical conceptual framework provided the means to explore how K-5 teachers come to develop professional dispositions. Four research questions framed the study. What professional dispositions did participants perceive as being most important? What professional dispositions were evident in the interview data? Which factors afforded or hindered participants' development of professional dispositions? The Vygotskian perspective was critical to understanding the multi-faceted nature of hindrances or affordances to disposition development. Vygotsky included personal and distant history in his theory of development. Personal history affects what is perceived and acted upon today; today's actions affect what cultural tools will be available tomorrow.

Chapter 2 offered the corpus of disposition literature in educational psychology and teacher education. Dispositions have not been defined consistently in teacher education literature. Consequently, assessment of dispositions has been challenging for teacher preparation programs mandated to document dispositions for accreditation purposes. Furthermore, although studies concerning the assessment of dispositions have become more prevalent, literature regarding disposition instruction has remained sparse. The instruction gap in the literature could be reduced, I asserted, by understanding the processes of disposition development from a Vygotskian perspective in which dispositions can be taught explicitly.

Chapter 3 described how this investigation was designed to enhance the utility and trustworthiness of the data that was collected and analyzed. To understand how teachers came to develop dispositions, teachers' perspectives were solicited through semi-structured interviews, focus groups, observations, and artifact reviews.

Chapter 4 presented three key findings concerning affordances and hindrances to disposition development. The first finding addressed the importance of mentors as mediators of disposition development. The second finding identified the importance of career commitment to mediation of disposition development. The third finding recognized the dynamic interplay between mentors, commitment, and extrapersonal mediators for disposition development.

Discussion

I will begin from theory discussed in Chapter 2. From educational psychology, Perkins and his colleagues identified the cognitive mechanisms by which dispositions are

enacted. What is noticed, perceived, and attended to, which he called sensitivity, becomes the gatekeeper for dispositions. Perkins asserted the sensitivity gate, as well as inclination and ability – the other elements of the triadic model of disposition – could be opened through instruction akin to enculturation. Participants in this study described how meaningful teaching experiences could have or did widen their perceptual gates. The concept of disposition development through enhancing background knowledge and skills was suggested, also, by Diez (2007).

Three Problems of Learning to Teach

Findings from this study were congruent with teacher education literature regarding the "three problems of learning to teach," which were: misconceptions about teaching; the limits of modeling and experience methods for teacher learning; and addressing the complexity of teaching (Darling-Hammond, 2002). The three problems of learning to teach were, according to the findings of this study, parallel to the problems of learning and developing professional dispositions.

Misconceptions. First, Darling-Hammond suggested that misconceptions about teaching could be addressed by raising awareness of initial beliefs. Participants in this study experienced surprises that created cognitive dissonance, and with the appropriate interventions, opportunities to learn were available. Two male teachers, in their mid 20s with two years experience, recalled their expectations: "How hard can teaching be?" "I expected it to be challenging, but I thought I would be done at 3." A female teacher in her mid 20s noted, "I had been working in an office by myself and was looking forward to interacting with others at a school. I feel even more isolated, though, and when I get home I don't want to talk to anyone." Teachers were often perplexed when they did not

know what to do and could find no one who could help them analyze options. Teachers were surprised, also, about the breadth and depth of their duties. They were confused about their lack of competence despite their sincere and intelligent efforts.

Skill-building methods. The second problem of enactments was reliance on observation of models and experience over time to build teaching skills. Darling-Hammond (2002) asserted that models and experience were not sufficient to develop the skill to explain, question, discuss, facilitate, or develop an authoritative stance. Instead, teachers must see and analyze "how, when, and why <practices> work" (p. 34). She was emphatic that learning to cope was not learning to teach.

Complexity. The third problem of learning to teach concerned complexity, which was a major issue for the beginning teachers in this study. Participants commented on the need to teach at four grade levels, the need to provide intensive one-to-one instruction, and the challenges of students whose behavior disrupted class. The goal, according to Darling-Hammond, is to learn to think systematically in order to develop diagnostic and instructional skills for students who require different approaches.

Mediators of Disposition Development

This exploratory case study of the process of disposition development was enabled by the conceptual framework that synthesized a cognitive model of thinking dispositions, a cultural-historical theory of development, and a view of dispositions as malleable constructs. Key findings suggested that the mediators of disposition development could be either hindrances or affordances depending on a) intrapersonal perceptions, preferences, and career commitment; b) interpersonal resources such as mentoring; and c) extrapersonal resources such as institutional funding. Although I have categorized

particular mediators as intra-, inter-, or extrapersonal in presenting the findings, all mediators can be considered as products of personal, social, historical, and cultural factors.

Intrapersonal mediators. Three types of intrapersonal were mediators suggested by the cognitive and cultural-historical theoretical foundation. The first intrapersonal mediator of disposition development was sensitivity to or perception of an occasion to use a disposition. The second intrapersonal mediator was historicity, which could include background knowledge and experience. The third intrapersonal mediator was the inclination or preference to enact a disposition once the need was recognized. Although sensitivity was identified as the gatekeeper to inclination and disposition enactment (Perkins et al., 1993a; Resnick, 1987), I argue that sensitivity could be primed by historicity such as background knowledge and experience. Reflections on structured and spontaneous experiences might foster insights and new knowledge that could expand the scope of what a teacher perceives in a classroom. Without deeper background knowledge of individualized instruction for diverse learners and of self-governing classroom communities, the teachers could not perceive a broader definition of their teaching problems.

Interpersonal mediators. Learning occurs first between people, according to Vygotskian theory, and is then internalized and individuated. This category included between person mediators such as culture, mentoring, modeling, administrators, and students. For example, if a teacher experienced cognitive dissonance when expectations were not met, an opportunity for learning might have arisen. Without a knowledgeable person to facilitate learning, however, the opportunity is lost, and the teacher may not

develop a knowledge base sufficient for continued professional growth and satisfaction. Using a cognitive model of learning, teachers might resolve the inconsistency by assimilation of conflicting information into an existing mental representation rather than accommodating a new schema (Gardner, 2004).

Extrapersonal mediators. This category included institutional factors such as funding, staffing, and support. For example, Kayla, the second-year teacher described in Chapter 4, characterized her school's administrators as "awesome." When Kayla was challenged by a student's behavioral disruptions, the administrators provided her with resources, such as counseling services or class timeout for the child. Jim said his principal was forward-thinking and had implemented programs that worked with high-need students. Theme 3 of the findings noted that the interplay between extrapersonal, interpersonal, and intrapersonal mediators was dynamic. As a result, similar conditions might afford one teacher's disposition development yet hinder another's. For example, organizational policies and institutional needs might determine how many students are assigned to a teacher, how many special needs students are assigned to a teacher, the availability of a mentor, and the availability of professional development. The performance responses of teachers can be determined by the juxtaposition of extrapersonal, intrapersonal, and interpersonal mediators. Extrapersonal mediators might include the number of students with special needs, the complexity of student needs, and the availability of resources.

Theoretical and Practical Implications

The theoretical basis for this study incorporated Vygotsky's cultural-historical approach, and, specifically, the concept of unity by which he synthesized theory and

practice. The purpose of research, for Vygotsky, was to solve the problems of education (Davydov, 1997). He began his career teaching literature in a high school and psychology at a teacher training school (Davydov). His first published book was a text for classroom teachers that promoted an understanding of educational and instructional processes (Vygotsky, 1926/1997). His later investigations of human development were the result of his work with individuals who had cognitive and sensory disabilities.

Teacher education researchers have identified the need for more studies with a theoretical grounding (American Association of Colleges of Teacher Education ([AACTE], 2008). Educational psychology researchers have recognized the need for translating research for classroom teachers' use (Bransford, Brown, & Cocking, 2000). This study of how teachers develop professional dispositions was in response to the need for teacher educators to facilitate disposition development. The findings have practical implications for teacher educators to identify optimal opportunities for learning dispositions and to foster the mediators needed to initiate the change process, such as commitment, effort, choice, and incentive.

Perkins' et al. (1993) triadic model has been used to teach the explicit thinking dispositions, including sensitivity, inclination, and ability components, to K-12 learners. This study extended the triadic model to professional teacher dispositions. Teacher educators might benefit from designing instruction in disposition development based on the triadic model. Examples in this dissertation, such as the Triadic Model Applied to Darling-Hammond's Dispositions, Table 2, demonstrated how the model can be adapted to almost any disposition.

I assert that the components of a non-cognitive disposition can be taught. One track to explore is incorporating instructional methods from the domain of counselor education, specifically, the teaching of explicit micro-skills (Ivey, 1973), into the domain of teacher education. For example, in counselor education, the skills of empathy, respect, and congruence are taught as the explicit, scaffolded micro-skills of listening: allocation of attention, eye contact, posture, gestures, verbal prompts, reflections, reframes, self-disclosures, and summaries. Teaching the micro-skills of non-cognitive dispositions could be important to the foundational dispositions of respect, fairness, caring, and conflict management.

Limitations of Present Study

Limitations in the study are important to acknowledge. Four aspects of the study could be limitations. First, grounded theory was conceived by Glasser and Strauss (1967) as an inductive approach from a neutral researcher. Like most educational researchers, I had already amassed knowledge and opinions concerning the topic, so absolute neutrality and purely inductive coding were ideals, but in practice, not possible.

A second limitation concerns use of the findings. The findings do not provide statistical inferences for predictions. Erickson (1986) conveyed the aim of this qualitative case study in his admonition to discover concrete universals from a specific case, not abstract universals from statistical inferences.

The third limitation of the study was that Vygotsky did not address, specifically, the concept of disposition. Also, his cultural-historical theory was not fully developed at the time of his death. Vygotsky did, however, address temperament, character, personality,

and development. Also, researchers have continued to use and refine his theory. Furthermore, Vygotsky's theory of development, which had been supported empirically, offered conceptual tools to examine the role of historicity and culture in individual development (Penuel & Wertsch, 1995).

As a final limitation, asking participants to recall their process of change would assume a level of self-perception that is rare. In asking, instead, about their expectations, disappointments, surprises, and conflicts, I have mapped their responses onto intentional change theory, which included the concepts of surprise, dissonance, and commitment, which required that I make inferences.

To address these limitations, the trustworthiness of the data was optimized whenever possible. The study was designed to use multiple methods of data collection, multiple types of data, multiple types of analyses, multiple concepts, and two theories of development and learning – cognitive and cultural-historical.

Conclusions and Recommendations for Future Research

This study adds to the existing literature and knowledge of teacher dispositions by synthesizing theoretical and practical perspectives on the structure and nature of the construct of teacher dispositions from teacher education (Shulman, 1986; Darling-Hammond, 2006a, 2006b; Diez, 2007; Cochran-Smith, & Zeichner, 2005) and educational psychology (Perkins & Grotzer, 1997; Perkins, Jay, & Tishman, 1993; Dweck & Leggett, 1988; Vygotsky, 1987a, 1987b; Snow, Corno, & Jackson, 1996; Messick, 1996).

The discipline of teacher education has no agreed-upon definition of disposition. In psychology, on the other hand, disposition is usually understood as an inclination to act in a specific way, such as cautious, or as a characteristic mood, such as cheerful.

Educational psychology has examined thinking dispositions by drawing upon research of cognitive learning and development, individual differences, and personality traits (Costa & McCrae, 1992; Dweck, Messick, 1996; Perkins, Jay, & Tishman, 1993; Sinatra & Kardash, 2004; Snow, Corno, & Jackson, 1996; Stanovich, West, & Sa, 1999). I suggest that educational psychology provides teacher education with a definitional warrant.

Dispositions are on the research agenda for AACTE and AERA. Much is not known about dispositions: How can opportunities for learning be incorporated? How can relevance, interest, and consequences (Hynd, 2003) be addressed? Although instructional design is beyond the scope of this study, instruction is essential for bridging disposition research and practice. Based on my experience teaching counseling skills to more than 250 education majors, I observed dispositional changes within weeks. Even resistant learners came to enjoy their newfound abilities to express empathy, positive regard, and congruence, and they were surprised by others' positive responses to their efforts to listen actively. How can we apply instructional strategies from the domain of counselor education to the domain of teacher education?

Cochran-Smith (2005) raised questions about teacher qualities apart from skills and knowledge and whether specific qualities could be taught in a teacher preparation program or learned on the job. Based on this examination of how K-5 teachers develop dispositions, I can respond to Cochran-Smith. Can a teacher be taught to behave in a caring manner? Absolutely!

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APPENDIX A

ELABORATION OF MENTAL FUNCTIONS

Personality			Intelligence		
Affection		Conation		Cognition	
Temperament	Emotion	Motivation	Volition	Conceptual Knowledge	Procedural Knowledge

Note: Based on Snow, Corno, and Jackson's (1993) examinations of conation in relationship to affect and cognition.

APPENDIX B

MODEL STANDARDS FOR BEGINNING TEACHERS (INTASC, 1992)

Principle # 1: Dispositions

The teacher realizes that subject matter knowledge is not a fixed body of facts but is complex and ever-evolving. S/he seeks to keep abreast of new ideas and understandings in the field. The teacher appreciates multiple perspectives and conveys to learners how knowledge is developed from the vantage point of the knower. The teacher has enthusiasm for the discipline(s) s/he teaches and sees connections to everyday life.

Principle # 2: Dispositions

The teacher appreciates individual variation within each area of development, shows respect for the diverse talents of all learners, and is committed to help them develop self-confidence and competence. The teacher is disposed to use students' strengths as a basis for growth, and their errors as an opportunity for learning.

Principle # 3: Dispositions

The teacher respects students as individuals with differing personal and family backgrounds and various skills, talents, and interests. The teacher is sensitive to community and cultural norms. The teacher makes students feel valued for their potential as people, and helps them learn to value each other.

Principle # 4: Dispositions

The teacher values the development of students' critical thinking, independent problem solving, and performance capabilities. The teacher values flexibility and reciprocity in the teaching process as necessary for adapting instruction to student responses, ideas, and needs.

Principle # 5: Dispositions

The teacher takes responsibility for establishing a positive climate in the classroom and participates in maintaining such a climate in the school as whole. The teacher understands how participation supports commitment, and is committed to the expression and use of democratic values in the classroom. The teacher values the role of students in promoting each other's learning and recognizes the importance of peer relationships in establishing a climate of learning. The teacher recognizes the value of intrinsic motivation to students' life-long growth and learning. The teacher is committed to the continuous development of individual students' abilities and considers how different motivational strategies are likely to encourage this development for each student.

Principle # 6: Dispositions

The teacher recognizes the power of language for fostering self-expression, identity development, and learning. The teacher values many ways in which people seek to communicate and encourages many modes of communication in the classroom.

The teacher is a thoughtful and responsive listener. The teacher appreciates the cultural dimensions of communication, responds appropriately, and seeks to foster culturally sensitive communication by and among all students in the class.

Principle # 7: Dispositions

The teacher values both long term and short term planning. The teacher believes that plans must always be open to adjustment and revision based on student needs and changing circumstances. The teacher values planning, as a collegial activity.

Principle # 8: Dispositions

The teacher values ongoing assessment as essential to the instructional process and recognizes that many different assessment strategies, accurately and systematically used, are necessary for monitoring and promoting student learning. The teacher is committed to using assessment to identify student strengths and promote student growth rather than to deny students access to learning opportunities.

Principle #9 Dispositions

The teacher values critical thinking and self-directed learning as habits of mind. The teacher is committed to reflection, assessment, and learning as an ongoing process. The teacher is willing to give and receive help. The teacher is committed to seeking out, developing, and continually refining practices that address the individual needs of students. The teacher recognizes his/her professional responsibility for engaging in and supporting appropriate professional practices for self and colleagues.

Principle #10: Dispositions

The teacher values and appreciates the importance of all aspects of a child's experience.

APPENDIX C

PROFESSIONAL DISPOSITIONS (NCATE, 2008)

Definitions

Professional dispositions. Professional attitudes, values, and beliefs demonstrated through both verbal and non-verbal behaviors as educators interact with students, families, colleagues, and communities. These positive behaviors support student learning and development. NCATE expects institutions to assess professional dispositions based on observable behaviors in educational settings. The two professional dispositions that NCATE expects institutions to assess are *fairness* and *the belief that all students can learn*. Based on their mission and conceptual framework, professional education units can identify, define, and operationalize additional professional dispositions.

Fairness (professional disposition). The commitment demonstrated in striving to meet the educational needs of all students in a caring, non-discriminatory, and equitable manner.

Fairness in assessment. The assurance that candidates have been exposed to the knowledge, skills, and dispositions that are being evaluated in key assessments and understand what is expected of them to complete the assessments. To this end, instructions and timing of the assessments should be clearly stated and shared with candidates. In addition, candidates should be given information on how the assessments are scored and how they count toward completion of programs.

Standards Rubric for Professional Dispositions

UNACCEPTABLE Candidates are not familiar with professional dispositions delineated in professional, state, and institutional standards. Candidates do not demonstrate classroom behaviors that are consistent with the ideal of fairness and the belief that all students can learn. They do not model these professional dispositions in their work with students, families, colleagues, and communities.

ACCEPTABLE Candidates are familiar with the professional dispositions delineated in professional, state, and institutional standards. Candidates demonstrate classroom behaviors that are consistent with the ideal of fairness and the belief that all students can learn. Their work with students, families, colleagues and communities reflects these professional dispositions.

TARGET Candidates work with students, families, colleagues, and communities in ways that reflect the professional dispositions expected of professional educators as delineated in professional, state, and institutional standards. Candidates demonstrate classroom behaviors that create caring and supportive learning environments and encourage self-directed learning by all students. Candidates recognize when their own professional dispositions may need to be adjusted and are able to develop plans to do so.

SUPPORTING EXPLANATION: Candidates for all professional education roles develop and model professional dispositions that are expected of educators. The unit includes as professional dispositions the ideal of fairness and the belief that all students can learn. Based on its mission, the unit may determine additional professional dispositions it wants candidates to develop. The unit articulates professional dispositions as part of its conceptual framework. The unit systematically assesses the development of

appropriate professional dispositions by candidates.^[13] Professional dispositions are not assessed directly; instead the unit assesses dispositions based on observable behavior in educational settings.

Rubric for Professional Dispositions to Help All Students Learn

UNACCEPTABLE Assessments before admission to and used during clinical practice are not linked to candidate competencies delineated in professional, state, and institutional standards. Assessments do not examine candidates' effect on student learning. Assessments of candidate performance are not conducted jointly by candidates and clinical faculty. Feedback and coaching in field experiences and clinical practice are not evident. Field experiences and clinical practice do not provide opportunities for candidates to develop and demonstrate knowledge, skills, and professional dispositions for helping all students learn. Candidates do not work with students with exceptionalities or with students from diverse ethnic/racial, linguistic, gender, and socioeconomic groups in their field experiences or clinical practice.

ACCEPTABLE Candidates demonstrate mastery of content areas and pedagogical and professional knowledge before admission to and during clinical practice. Assessments used in clinical practice indicate that candidates meet professional, state, and institutional standards identified in the unit's conceptual framework and affect student learning. Multiple assessment strategies are used to evaluate candidates' performance and impact on student learning. Candidates and clinical faculty jointly conduct assessments of candidate performance throughout clinical practice. Both field experiences and clinical practice allow time for reflection and include feedback from peers and clinical faculty. Candidates and clinical faculty systematically examine results related to P-12 learning.

They begin a process of continuous assessment, reflection, and action directed at supporting P–12 student learning. Candidates collect data on student learning, analyze them, reflect on their work, and develop strategies for improving learning. Field experiences and clinical practice provide opportunities for candidates to develop and demonstrate knowledge, skills, and professional dispositions for helping all students learn. All candidates participate in field experiences or clinical practice that include students with exceptionalities and students from diverse ethnic/racial, linguistic, gender, and socioeconomic groups.

TARGET Candidates work collaboratively with other candidates and clinical faculty to critique and reflect on each others’ practice and their effects on student learning with the goal of improving practice. Field experiences and clinical practice facilitate candidates’ exploration of their knowledge, skills, and professional dispositions related to all students. Candidates develop and demonstrate proficiencies that support learning by all students as shown in their work with students with exceptionalities and those from diverse ethnic/racial, linguistic, gender, and socioeconomic groups in classrooms and schools.

SUPPORTING EXPLANATION Field experiences and clinical practice are integral program components for the initial and advanced preparation of teacher candidates and candidates for other professional school roles. They provide the opportunity for candidates to develop the knowledge, skills, and professional dispositions in the unit’s conceptual framework in a variety of settings appropriate to the content and level of their program. Designed and sequenced well, field experiences and clinical practice help candidates develop the competence necessary to begin or continue careers as teachers or

other school professionals. Student teaching or an internship is the culminating experience for teacher candidates at the baccalaureate level. Internships at the post baccalaureate or master's level are often integrated with coursework throughout the program. Candidates preparing for new roles such as special education teachers or principals or school psychologists at the graduate level are expected by their profession to complete internships as part of their preparation programs.

APPENDIX D

CODE OF ETHICS OF THE EDUCATION PROFESSION (NEA, 1975)

Preamble

The educator, believing in the worth and dignity of each human being, recognizes the supreme importance of the pursuit of truth, devotion to excellence, and the nurture of the democratic principles. Essential to these goals is the protection of freedom to learn and to teach and the guarantee of equal educational opportunity for all. The educator accepts the responsibility to adhere to the highest ethical standards.

The educator recognizes the magnitude of the responsibility inherent in the teaching process. The desire for the respect and confidence of one's colleagues, of students, of parents, and of the members of the community provides the incentive to attain and maintain the highest possible degree of ethical conduct. The Code of Ethics of the Education Profession indicates the aspiration of all educators and provides standards by which to judge conduct.

The remedies specified by the NEA and/or its affiliates for the violation of any provision of this Code shall be exclusive and no such provision shall be enforceable in any form other than the one specifically designated by the NEA or its affiliates.

Commitment to the Student

The educator strives to help each student realize his or her potential as a worthy and effective member of society. The educator therefore works to stimulate the spirit of

inquiry, the acquisition of knowledge and understanding, and the thoughtful formulation of worthy goals.

In fulfillment of the obligation to the student, the educator--

1. Shall not unreasonably restrain the student from independent action in the pursuit of learning.
2. Shall not unreasonably deny the student's access to varying points of view.
3. Shall not deliberately suppress or distort subject matter relevant to the student's progress.
4. Shall make reasonable effort to protect the student from conditions harmful to learning or to health and safety.
5. Shall not intentionally expose the student to embarrassment or disparagement.
6. Shall not on the basis of race, color, creed, sex, national origin, marital status, political or religious beliefs, family, social or cultural background, or sexual orientation, unfairly--
 - a. Exclude any student from participation in any program
 - b. Deny benefits to any student
 - c. Grant any advantage to any student
7. Shall not use professional relationships with students for private advantage.
8. Shall information about students obtained in the course of professional service unless disclosure serves a compelling professional purpose not disclose or is required by law.

Commitment to the Profession

The education profession is vested by the public with a trust and responsibility requiring the highest ideals of professional service. In the belief that the quality of the services of the education profession directly influences the nation and its citizens, the

educator shall exert every effort to raise professional standards, to promote a climate that encourages the exercise of professional judgment, to achieve conditions that attract persons worthy of the trust to careers in education, and to assist in preventing the practice of the profession by unqualified persons.

In fulfillment of the obligation to the profession, the educator--

1. Shall not in an application for a professional position deliberately make a false statement or fail to disclose a material fact related to competency and qualifications.
2. Shall not misrepresent his/her professional qualifications.
3. Shall not assist any entry into the profession of a person known to be unqualified in respect to character, education, or other relevant attribute.
4. Shall not knowingly make a false statement concerning the qualifications of a candidate for a professional position.
5. Shall not assist a non-educator in the unauthorized practice of teaching.
6. Shall not disclose information about colleagues obtained in the course of professional service unless disclosure serves a compelling professional purpose or is required by law.
7. Shall not knowingly make false or malicious statements about a colleague.
8. Shall not accept any gratuity, gift, or favor that might impair or appear to influence professional decisions or action.

Adopted by the NEA 1975 Representative Assembly

APPENDIX E

DISPOSITION CONSTRUCTS

Dispositions as Psychological Constructs	Dispositions as Pedagogical Constructs
Definitions	
Individual difference; behavioral - cognitive concept; borderline of cognitive psychology and personality; resistant to change; predict reasoning apart from differences in general cognitive ability Stanovich 2002	Approaches and traditions: Entity vs. Incremental; Separate vs. Holistic assessment; Build community vs. Screen Diez, 2007
Thinking dispositions Halpern, 1998; Kuhn, 1999; Perkins, Jay, & Tishman, 1993; Resnick, 1987	Habits of thinking and action Darling-Hammond & Baratz-Snowden, 2005
Intentional level construct Sinatra & Pintrich, 2003	Need for theory and definition Zeichner, 2006
Separate constructs from cognitive capacities Baron, 1985; Perkins et al., 1993; Stanovich 1999, 2002	Teacher testing and teacher education Laczko-Kerr & Berliner, 2002
Cognitive styles; operate across domains of affection, conation, and cognition Messick, 1996.	Teacher ed dispositions Katz and Raths, 1985
Cognitive disposition Caccioppo, 1996	
Habit shaped by beliefs and values Kuhn, 1999	

Systems

7 Triadic Dispositions for Good Thinking
 Inclinations to be Broad, Adventurous;
 Intellectually curious; Seek understanding;
 Planful, strategic; Intellectually careful,
 Seek reasons; Metacognitive
 Perkins et.al., 1993

INTASC 1992: Beginning Teacher 10
 dispositions (Appendix C)

NCATE, 2008 dispositions: Fairness;
 Belief all children can learn

5 factor model of personality traits:
 Openness to Experience,
 Conscientiousness, Gregariousness,
 Agreeableness, Neuroticism
 Costa & McCrae, 1992

Disposition Change

Enculturation and transmission
 Perkins et al. 1993

Wisdom of Practice: Shulman, 1986, 2006
 Can caring be taught: Cochran-Smith,
 2005

Learning precedes development
 Vygotsky, 1987

Instruction and experience
 Diez, 2007

Necessary and sufficient conditions for
 personality change 2 people,
 incongruence, empathy, respect,
 genuineness, understood Rogers, 1992

Professional enculturation
 Shulman, 1986

Intention, affect, cognitive dissonance.
 Hynd, 2003

Reflection, guided experiences and
 discussion
 Darling-Hammond, 2006

Mediators: individual characteristics:
 interest, knowledge, personal relevance,
 incentive, choice, commitment,
 consequences, personal responsibility for
 consequences, effort
 Hynd, 2003

Dispositions as Psychological Constructs	Dispositions as Pedagogical Constructs
Assessment	
Performance evaluations INTASC, 1992	Checklists, rubrics, performance Stiggins, 2005
Self-report or projective tests Costa & McCrae, 1992	Vary by intensity and direction Stiggins, 2005
Dynamic assessment Vygotsky, 1987	Ambiguous - assessment open to subjective biases of evaluator Damon, 2007

APPENDIX F

INTERVIEW AND FOCUS GROUP PROTOCOL

Frame: Vygotskian cultural-historical

Disciplinary Approaches: Psychology, Education

Constructs: Dispositions, attitudes, habits of mind, commitments

Theoretical Frame: Historicity, mediation, internalization

Perspective: Emic

Agenda:

Establish Rapport

- Events of the day

- Pressing obligations

- Any concerns about participation

Focus group expectations and realities

Research Questions (may be paraphrased, expanded, omitted)

- How do teachers describe their professional dispositions?

- How do teachers describe the factors that facilitated or constrained disposition development?

General Goals

Bring tacit beliefs, attitudes, and values to awareness:

- Q: What were your expectations?

- Q: Describe your best day of teaching.

- Q: Describe your worst day of teaching.

- Q: If you had a magic wand, what would you change?

- Q: What are the most important dispositions that a teacher should have?

Identify opportunities for learning

- Q: Surprises? Aha moments? What would you do differently today?

- Q: What person, place, or situation instigated or prevented changed dispositions?

- Q: What did you do when you didn't know what to do?

- Q: Who can you ask for help?

APPENDIX G

SOCIAL/BEHAVIORAL IRB – EXPEDITED REVIEW

Approval Notice

NOTICE TO ALL RESEARCHERS:

Please be aware that a protocol violation (e.g., failure to submit a modification for any change) of an IRB approved protocol may result in mandatory remedial education, additional audits, re-consenting subjects, researcher probation suspension of any research protocol at issue, suspension of additional existing research protocols, invalidation of all research conducted under the research protocol at issue, and further appropriate consequences as determined by the IRB and the Institutional Officer.

DATE: March 10, 2008

TO: Dr. Lori Olafson, Educational Psychology

FROM: Office for the Protection of Research Subjects

RE: Notification of IRB Action by Dr. J. Michael Stitt, Chair
Protocol Title: Development of Professional Dispositions: Prospective Teachers' Perceptions
Protocol #: 0802-2614

This memorandum is notification that the project referenced above has been reviewed by the UNLV Social/Behavioral Institutional Review Board (IRB) as indicated in Federal regulatory statutes 45 CFR 46. The protocol has been reviewed and approved.

The protocol is approved for a period of one year from the date of IRB approval. The expiration date of this protocol is March 3, 2009. Work on the project may begin as soon as you receive written notification from the Office for the Protection of Research Subjects (OPRS).

PLEASE NOTE:

Attached to this approval notice is the official Informed Consent/Assent (IC/IA) Form for this study. The IC/IA contains an official approval stamp. Only copies of this official IC/IA form may be used when obtaining consent. Please keep the original for your records.

Should there be *any* change to the protocol, it will be necessary to submit a Modification Form through OPRS. No changes may be made to the existing protocol until modifications have been approved by the IRB.

Should the use of human subjects described in this protocol continue beyond March 3, 2009, it would be necessary to submit a Continuing Review Request Form *60 days* before the expiration date.

If you have questions or require any assistance, please contact the Office for the Protection of Research Subjects at OPRSHumanSubjects@unlv.edu or call 895-2794.

APPENDIX H

2007-2008 SCHOOL ACCOUNTABILITY REPORTS

Students' Race, Ethnicity, and Grade Levels

School Code	American Indian/Alaskan Native %	Asian/Pacific Islander %	Hispanic %	Black %	White %	Grade Levels
A	0.6	3.2	66.4	19.6	10.2	PK-2
B	0.0	3.3	82.3	7.4	6.5	PK-5
C	0.0	0.0	8.4	2.2	86.2	3-5
D	1.2	30.0	21.3	14.5	33.1	PK-5
E	0.0	4.0	58.4	18.7	17.9	PK-5

Enrollment, Transiency, Special Populations, and Performance

School Code	Enrollment	Transiency %	IEP %	LEP %	FRL %	Adequate Yearly Progress
A	855	39.8	10.3	53.8	78.2	Y
B	798	48.2	8.1	67.9	74.7	N
C	450	18.5	9.3	0.0	16.9	Y
D	953	7.1	21.8	27.3	30.7	Y
E	856	47.0	9.5	40.0	100.0	N

Note: Individual Education Plan (IEP); Learning English (LEP); Free and Reduced Lunches (FRL), Adequate Yearly Progress (AYP).

APPENDIX I

PARTICIPANT DEMOGRAPHICS AND PSEUDONYMS

Identification		Demographics			Qualifications			
	Pseudonym	Race & Ethnicity	Gender	Age	BA Degree	Lic+	Grades Taught	Years
1	Diane	C	F	24	Humanities		2	2
2	Kris	C	F	40	Education	TESOL	2,3,4,5	7
3	Branford	C	M	23	Poli Sci		5	2
4	Anna	C	F	23	Poli Sci		4	2
5	Megan	C	F	23	Poli Sci	TESOL	K,3	2
6	Gabriella	C H	F	23	Soc Sci	ESL	P	2
7	Molly	C	F	23	Business		3	2
8	Rebecca	AA	F	26	Soc Sci		1	2
9	Nicole	AA	F	22	Soc Sci		K	2
10	Alexa	C	F	23	Education		2	2
11	Janice	C	F	24	Soc Sci		1	2
12	Veronica	C	F	25	Business		1	2
13	Kayla	AA	F	23	Humanities	TESL	3	2
14	Inez	C	F	44	Education		5,6	16
15	Joan	C	F	25	Education		2,1	2
16	Shannon	C	F	24	Soc Sci		2	2
17	Alicia	C	F	23	Soc Sci		K	2
18	Shivan	AA	F	24	Soc Sci		2	2
19	Joanne	C	F	26	Humanities		4	2
20	Ed	C	M	24	Intl Studies		5	2
21	Joyce	C	F	24	Economics		4	2
22	Rebecca	C	F	23	Intl Studies		4	2
23	Natalie	C	F	23	Economics		5	2
24	Brian	C	M	23	Intl Studies	TESOL	5	2
25	Jim	C	M	24	Business	TESOL	5	2
26	Leah	C	F	25	Poli Sci		1,2	2
27	Larry	C	M	26	Humanities	TESL	5,3	2
28	Rachel	AA	F	24	Economics	ELL	5	2
29	Paige	C	F	24	Intl Studies		K,1	2
30	Samuel	C	M	23	Humanities	TESL	5	2

Note: Caucasian (C); African American (AA), Hispanic (H), Endorsement - Teach English as a Second Language (TESOL, TESL, ELL, ESL)

APPENDIX J

OPEN CODING OF 13 TRANSCRIPTS

102 codes for 676 quotes in 13 transcripts			
	Most Frequent		Least Frequent
Mediators	KeyInf:BehMgt	KeyInf:MotToTeach	Counseling
Realizations	Behavior	Perception	TeachExp:Music
CareerInterests	TeachingChallenges	Policy	KeyInformant
Dissonance	KeyInf:SpecNeeds	KeyInf:Phil	Students:Bright
NewSkill	SelfTalk	Male	Helping
Intrapersonal	TeacherBackground	Disp:Humility	Students:HiIntensity
Mentor	Hindrance	Disp:Imp:Organized	Feasibility
Disp:Imp	Initial	ThirdYr	KeyInf:FosterStSuccess
Worst	Students:Hard	LowStudents	KeyInf:Disp:Malleability
Best	Philosophy	Disp:Empathy	KeyInf:Expectations
Expectations	KnowDo:Behavior	Disp:Passion	Students:Emotional
Surprises	Hindrance: Colleagues	Disp:Planful	Students:Fun
Disp:Malleability	Time	LearningProgress	Expectation:Calling
MagicWand	Contextual	Disp:Imp:Technology	KeyInf:StEngagement
KnowDo	Disp:Openness	Teaching	Dissonance: Scared
Disp:Flexibility	Disp:Patience	ChildhoodRoleModel	Dissonance: Stress
Interpersonal	Adm	WhyTeach:HelpSucceed	special ed kids
KeyInf:Mentors	Competence	Best:None	Students:BelowGradeLevel
Evolved	Students:SpecNeeds	Best:Pause	KeyInf:SuccessBelief
KeyInformant	Dissonance: Affect	BurntOut	Dissonance:Frustrated
Students	DispDev	Disp:Caring	Law
Parent	Disp:Bored	Disp:Creative	EdPolicy
LearningDifficulty	Dissonance: Cried	Affordance	NotTeaching
Disp:PositiveAtt	KeyInf:Fair	WhyTeach:OnePerWk	

APPENDIX K

CODING MATRIX: EXPERIENCE AND MEDIATORS

	Hindrances	Affordances
Experienced K-5 teachers	<p>Behavior issue: 2nd year of teaching, he stood in the front of the room and told me where to go.</p> <p>Preparation or Experience: I didn't know what to do.</p>	<p>Experience: I would have quit had I not had experience</p> <p>Career interest: Seeing a child 'get it'; being able to teach a difficult concept and the child understood.</p> <p>Career awareness: Once per week is enough.</p> <p>Undergraduate degrees: elementary education</p>
Beginning K-5 teachers	<p>Behavior and mentor issue: Behaviors escalated and no one to ask</p> <p>Opportunity or threat: Felt incompetent</p> <p>Overwhelmed: Cried in front of class</p> <p>Career Awareness: I didn't know what I wanted to do.</p> <p>Career Interest: I wanted to do community service before graduate school.</p> <p>Undergraduate major: business, economics, international studies, finance, government</p>	<p>Colleague support: Send him to my room and I'll take care of him. That kind of support really helped out. I learned quickly who I could ask and who would follow through. Several people came to my aid consistently throughout the year.</p> <p>Administration support: This year I definitely have much more support from the same administration that wasn't willing to help last year. Instead of saying, "Help me!" I'm saying, "Do X, Y, and Z."</p> <p>Mentors: It is important for first year teachers to know there's at least one person who is going to help them, give them what they need</p> <p>Undergraduate degrees: social sciences</p>

APPENDIX L

CODE HIERARCHY AND LINKS

CareerInterests <is> Root
CI:Model <is part of>
CareerInterests
Evovled <is part of>
CareerInterests
NotTeaching <is part of>
Evovled
Counseling <is part of>
NotTeaching
EdResearch <is part of>
NotTeaching
Finance <is part of>
NotTeaching
Law <is part of>
NotTeaching
EdPolicy <is part of>
Law
Medicine <is part of>
NotTeaching
Teaching <is part of> Evovled
Expectations <is part of>
CareerInterests
Best <is part of> Expectations
Worst <is part of> Expectations
Surprises <is part of> Worst
Feasibility <is part of>
Surprises
Time <is part of>
Surprises
Initial <is part of> CareerInterests
Teaching <is part of> Initial
KeyInf:Expectations <is part of>
CareerInterests
KeyInf:MotTeach:StSuccess <is
part of> CareerInterests
KeyInf:MotToTeach <is part of>
CareerInterests
TeacherBackground <is part of>
CareerInterests
TeachExp:Music <is part of>
CareerInterests
WhyTeach:HelpSucceed <is part
of> CareerInterests
WhyTeach:OnePerWk <is part of>
CareerInterests
DispDev <is> Root
NewSkill <is part of> DispDev
Realizations <is part of>
NewSkill
Dissonance <is part of>
Realizations
Dissonance: Affect <is
part of> Dissonance
Dissonance: Cried <is
part of> Dissonance
Dissonance: Scared <is
part of> Dissonance
Dissonance: Stress <is
part of> Dissonance
Dissonance:Frustrated
<is part Dissonance
Surprises <is part of>
Dissonance
Feasibility <is part
of> Surprises
Time <is part of>
Surprises
Expectations <is> Root

Best <is part of> Expectations
 Worst <is part of> Expectations
 Surprises <is part of> Worst
 Feasibility <is part of>
 Surprises
 Time <is part of> Surprises
 Interpersonal <is> Root
 Mentor <is part of> Interpersonal
 Parent <is part of> Interpersonal
 Students <is part of> Interpersonal
 Behavior <is part of> Students
 LearningDifficulty <is part of>
 Students

 Intrapersonal <is> Root
 Disp:Imp <is part of> Intrapersonal
 Disp:Malleability <is part of>
 Intrapersonal
 SelfTalk <is part of> Intrapersonal

 MEDIATORS <is> Root
 Contextual <is part of>
 MEDIATORS
 Adm <is part of> Contextual
 Policy <is part of> Contextual
 School <is part of> Contextual
 Interpersonal <is part of>
 MEDIATORS

 Mentor <is part of>
 Interpersonal
 Parent <is part of>
 Interpersonal
 Students <is part of>
 Interpersonal
 Behavior <is part of>
 Students
 LearningDifficulty <is part of>
 of> Students
 Intrapersonal <is associated with>
 MEDIATORS
 Disp:Imp <is part of>
 Intrapersonal
 Disp:Malleability <is part of>
 Intrapersonal
 SelfTalk <is part of>
 Intrapersonal
 Philosophy <is part of>
 MEDIATORS
 Students:SpecNeeds <is part of>
 MEDIATORS
 TeacherBackground <is part of>
 MEDIATORS
 TeachingChallenges <is part of>
 MEDIATORS

APPENDIX M

QUOTES GROUNDING THE SURPRISE CODE

1. I actually thought that I would get students who were lower than what I did. So, I feel like I'm very lucky to get that.
2. I haven't had any students who don't speak English or have come straight from Mexico.
3. I thought I would be teaching...I had a kid that needed glasses. I don't know anything about eyes. There are just so many other things besides teaching. That was the biggest surprise.
4. I was surprised that kids were coming to tutoring and were still two to three grade levels behind.
5. I teach 5th grade. The amount of times my kids say they learned it in 3rd grade, and I thought this is going to be great, just some review... 60-70% won't know the first example. They tell you they learned it, though. They don't know that they don't know.
6. I was surprised by how fast time goes by. I thought I'd have more time to cover what we needed to, but we didn't have time to go back and the kids got further and further behind.

7. There's too many standards and too much information that needs to be communicated. There certainly isn't enough time to teach what will carry over to the next grade level.
8. I couldn't wait to interact with children instead of being in front of a computer all day. Teaching, even though I was surrounded, I felt socially isolated. At the end of the day I didn't want to talk, I was all talked out.
9. I felt alone - I felt I was the only one pulling for kids in my classroom - whether it was other teachers, the principal, parents.
10. I didn't expect that no had it figured out. I would ask lots of people for help, get five other resources and not know what to do. Individuals teaching 20 years disagreed and both said they were a success. It's really challenging in that there are multiple ways to solve a problem but you don't always have time to figure out which one is the best.
11. I thought no books, desks. It was the opposite, a plethora of curriculum to choose from. You were just inundated with textbook after textbook after textbook and no one would give you any proper training on how to use it. In terms of what to do, you're not getting answers anywhere. Because no one has it figured out. I was frustrated that I couldn't find out what to do.
12. This is not a new game that we're playing. It's been going on and on and on and on. I think money doesn't close the achievement gap. I think it would be wise to pick and choose curriculums that really work for the population that you work with. That was my big surprise - nobody knows what works.

13. I feel like we <teacher and administrator> are equals. Some administrators treat you that way, some don't. That was a new, eye-opening thing. I always thought we both have to breathe. It was shocking to see that some administrators really treat teachers like they're lesser.
14. I had no idea that the public perception of educators was so negative.
15. I was I think on the bandwagon of get rid of bilingual education. Immerse them quickly. It sounded good on paper. But I taught 3rd grade and so I have the benefit of several years in a row getting second graders who came from a bilingual teacher, who Spanish was her native language and she spoke fluent English and Spanish, and then I also had kids who came from a regular TESOL immersion, highly scaffolded, great teacher, I mean, she didn't speak Spanish in the classroom, didn't teach in Spanish. But year after year it's the kids who got the English instruction but got the content instruction in their native language that came to third grade not deficient in any content. Like, they were on it with the science, they were on it with the reading, they were right with you, there was just a little bit of a language barrier, you know. Versus a kid who, they came from another country and the language learning stopped. And they were immersed. And so they spent the last year learning English and nothing else, because they couldn't understand the content well enough. And it was backwards from what I assumed, that immersion would be the quickest way. Now I wish we could bring back the bilingual. I have talked to people who think that everyone comes across the border, which isn't true. Some kids--their parents are educated and they did go

to school and they came here for entirely different reasons. That was an eye opener too.

16. I've noticed in both of my classes that if a student is struggling with reading, and they know that they struggle with reading, they become more introverted during the reading block. Even in reading groups they're less likely to take risks with pronouncing words or contributing to discussions. They always look to the teacher to reassure them. But, on the flipside, a kid that really hasn't had much trouble in reading or even if there has been struggles they are comfortable in themselves, they take the risks. It's weird to see it develop so early, because my kids are 8 and 9.

17. I remember going home, crying all the way home, going, "I don't know if I can do this." And then I had to change how I was teaching. (Inez)

APPENDIX N

MEDIATORS AND CAREER COMMITMENT

	Entry	Early Exit vs. Persist	Experienced
Mediators	Career Interests CI Expectations	Career Awareness CA Reflectivity Flexibility Mentor Resources	Surprises Perceive opportunities Realizations
Examples	<p>Interest: Inspired -6th grade teacher became lifelong mentor (Kayla)</p> <p>-Scout leader offered optimal challenges (Kris)</p> <p>-4th grade teacher recognized and remediated reading problem (Inez)</p> <p>Teaching is my calling (Inez)</p>	<p>Reflectivity "I've changed my career plans from law to teaching" (Kayla)</p> <p>Reflectivity; Flexibility They <students> don't get it. I can't teach them to think. (Shivan)</p> <p>I'm thinking about why they feel they can't learn – they're only 8 and 9. (Kayla)</p> <p>Career Awareness; Resilience The effort needed to teach can't be sustained for more than a few years. (Ed)</p>	<p>Surprises It was an eye-opener (Inez)</p> <p>Perceive opportunities; Realization I had to change how I was teaching (Inez)</p> <p>"One a year is good (after 18 years). I can't save them all." (Inez)</p>
	Identification I had learning problems, also, in school (Inez)	Empathy Student barrier to learning frustrates rather than motivates teacher: These students have too many barriers to be successful and learn. (Alicia)	

APPENDIX O

DISPOSITION DEVELOPMENT MEDIATORS

Kayla: Disposition affordances. Development anticipated but incomplete (pp. 151-152).

Alicia: Disposition hindrances. Development not anticipated (pp. 153-154).

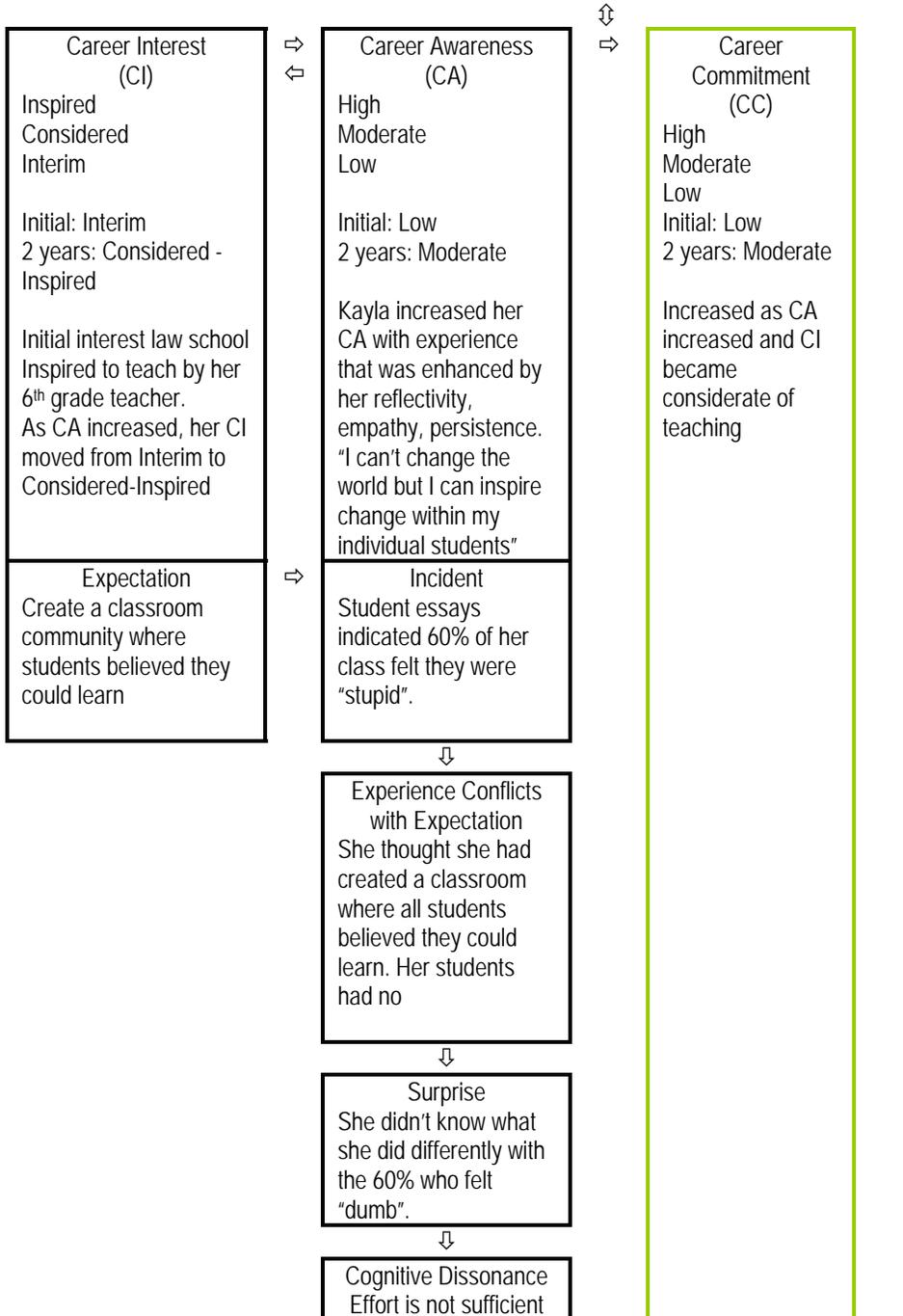
Inez: Disposition affordances. Disposition development demonstrated (pp. 155-156).

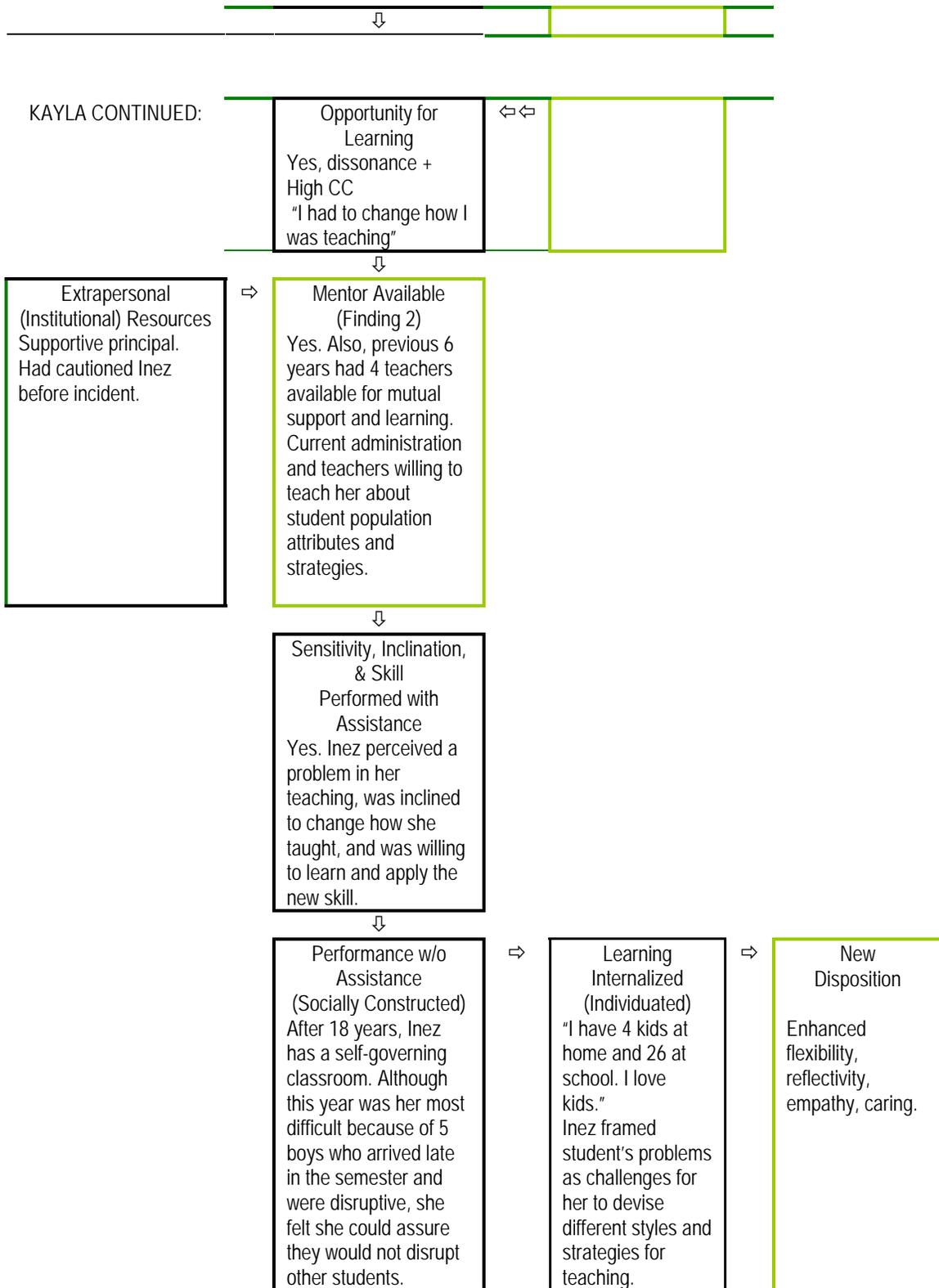
KAYLA

Kayla: African American female, age 23, 2 years experience teaching 3rd grade, undergraduate degree in the Humanities. She began teaching with a goal of becoming an attorney at some point in the future. However, after she considered teaching further, she decided on an education related career.

Dynamic Interplay (Finding 3)

Kayla's increasing Career Commitment, supportive and available administration and colleagues, low number of students with behavior or learning issues, reflectivity, and perception worked together to optimize a positive outcome and development of desirable dispositions.

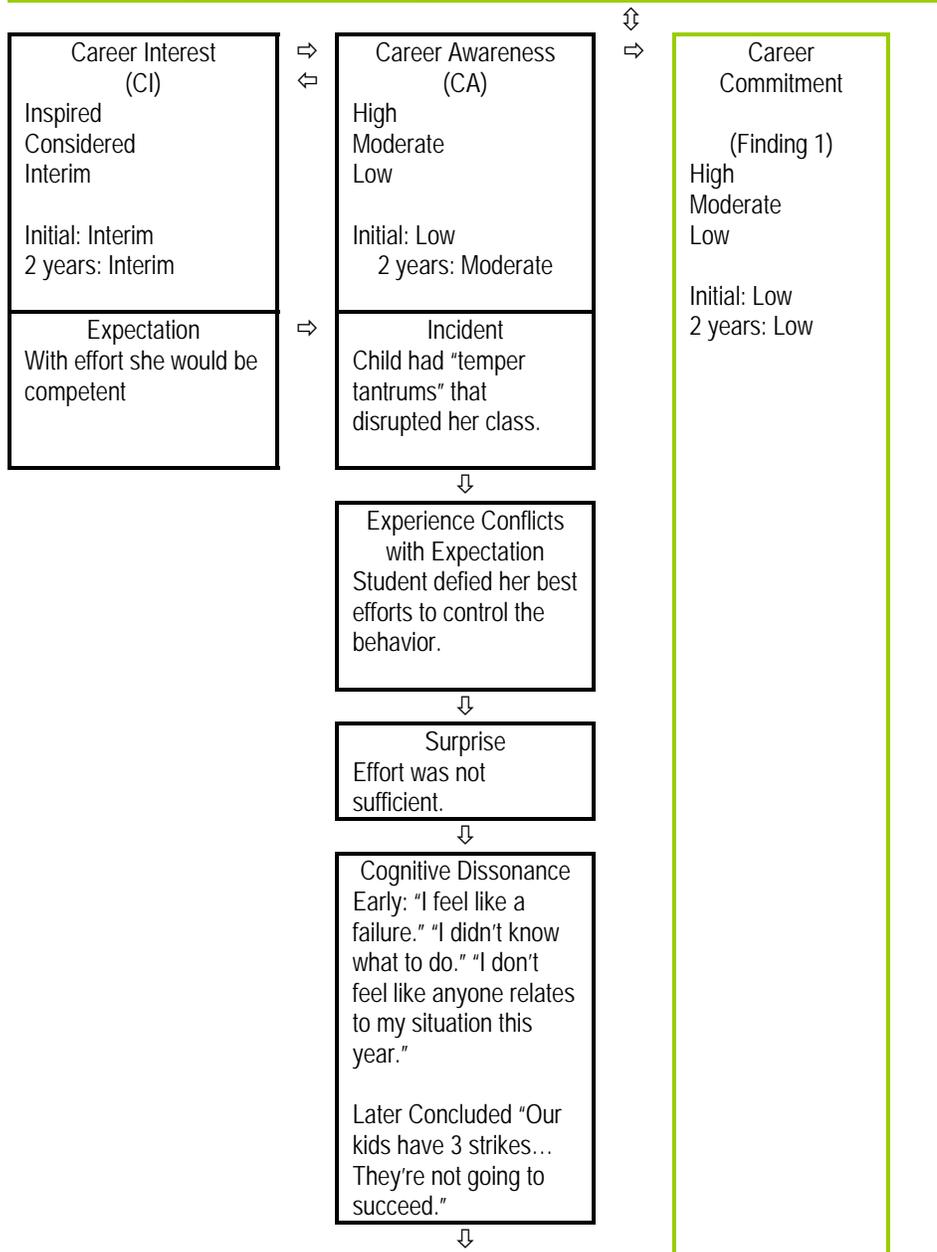




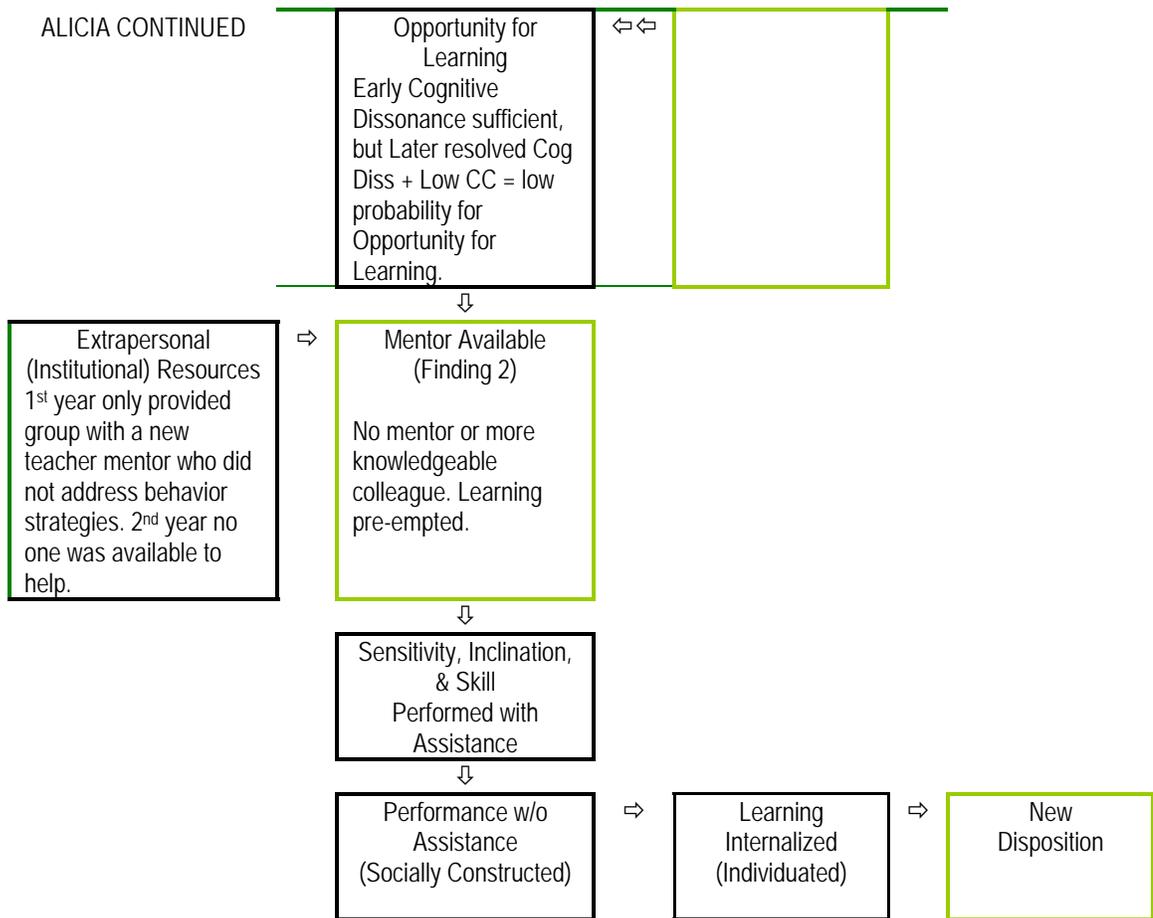
ALICIA

Alicia was Caucasian, age 23, held an undergraduate degree in anthropology, and had taught kindergarten for 2 years. She was leaving teaching after 2 years to attend law school.

Dynamic Interplay (Finding 3) Alicia's CI was Interim and did not shift with increased CA. CA revealed more negative than positive aspects given the complexity of Alicia's students' needs (behavioral and learning issues) and the lack of colleague or administrative support.



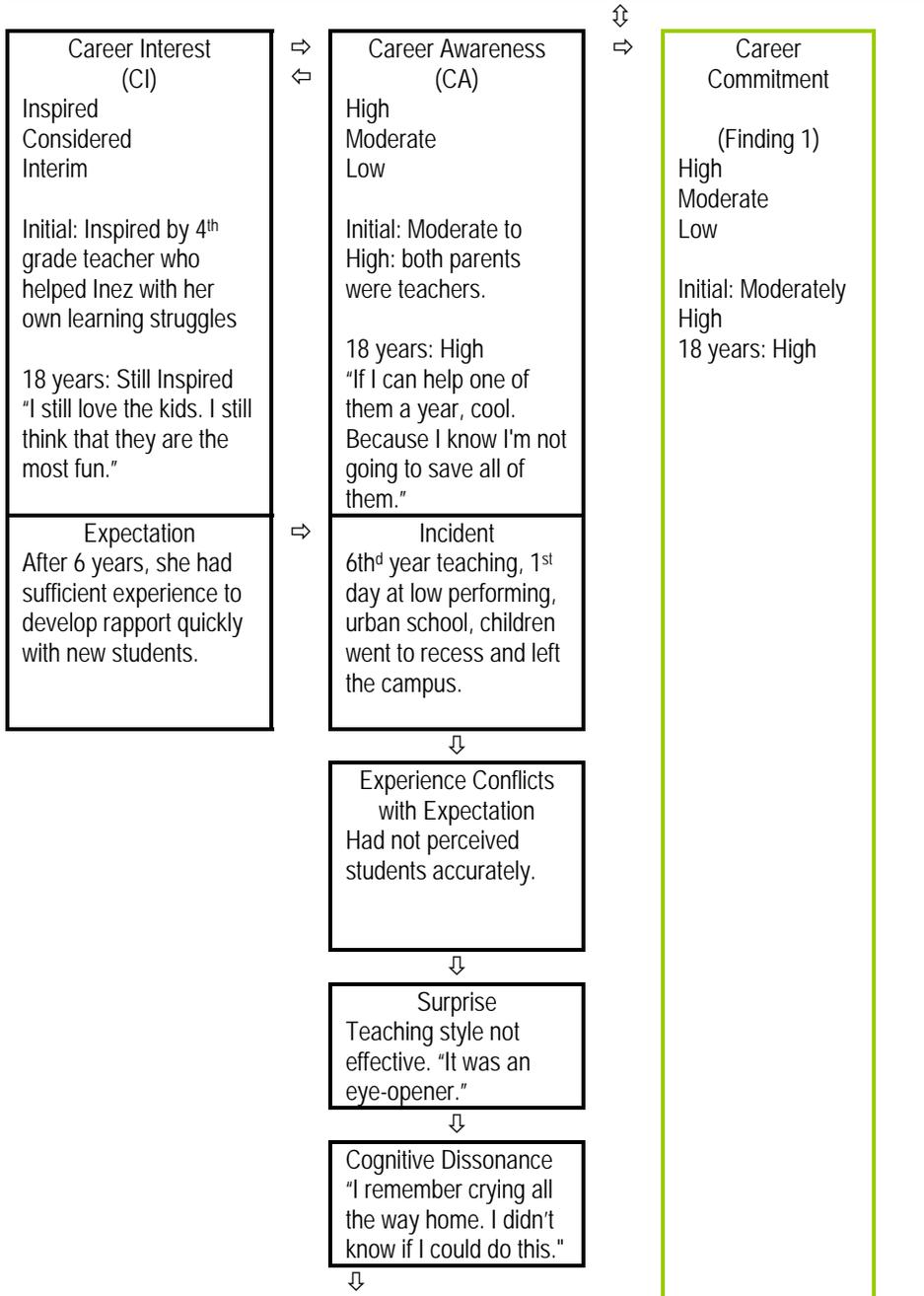
ALICIA CONTINUED

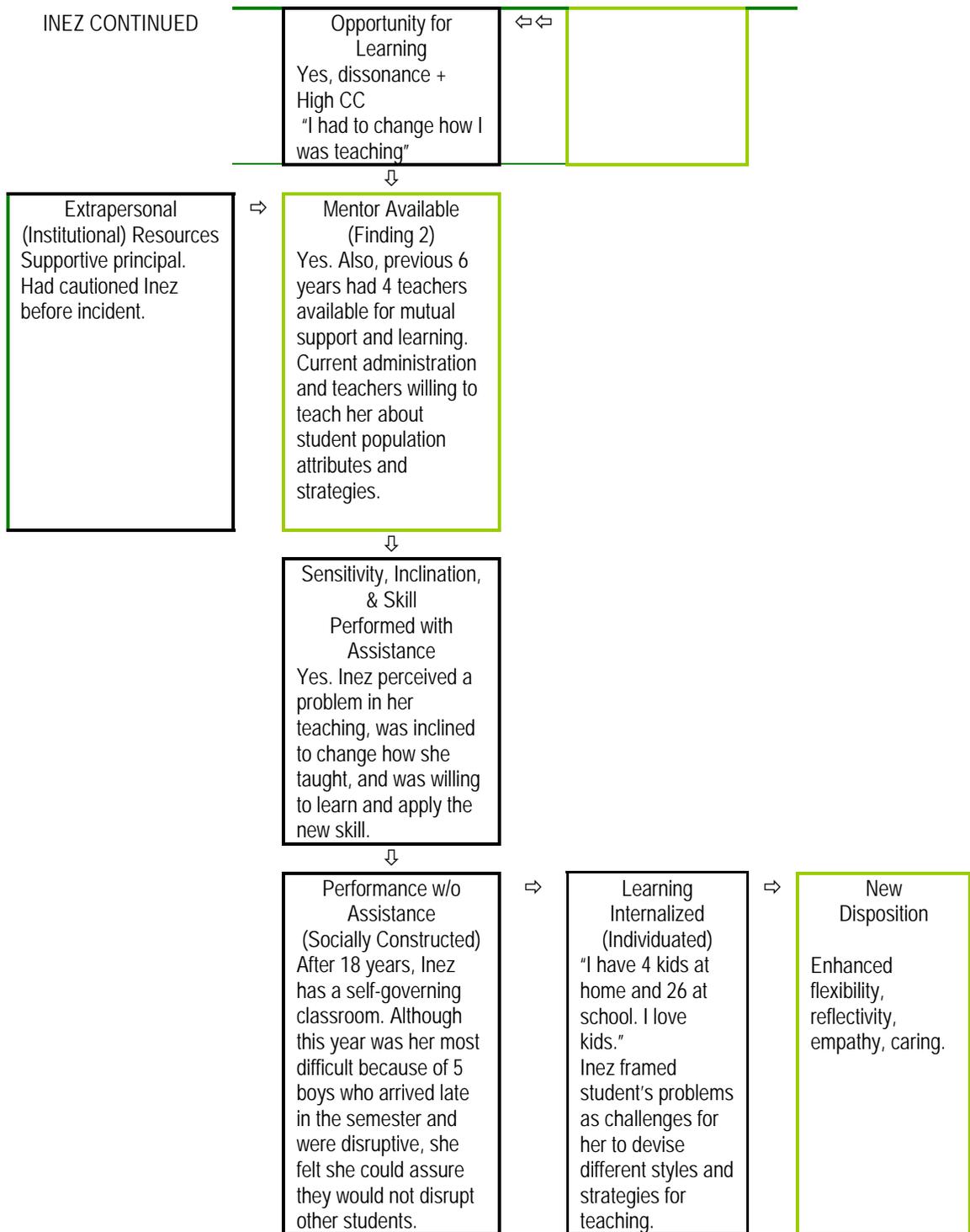


INEZ

Inez, Caucasian, age 44, undergraduate degree in elementary education and 18 years experience teaching 5th and 6th grade.

Dynamic Interplay (Finding 3) Inez was afforded mentors throughout her career. In the interplay between her High Career Commitment, willingness to address Cognitive Dissonance, availability of a Mentor, and administration support, she continued to develop her professional competencies for 18 years.





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UNLV Graduate and Professional Students Association
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Travel Grant (2004, November) for annual meeting of American Evaluators
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Obara, D. A., & Olafson, L. (2007, April). *Construct Dimensions of Preservice
Teachers' Dispositions*. Poster session presented at the annual meeting of the
National Council on Measurement in Education, Chicago, IL.

Obara, D. A., & Putney, L. G. (2008, September). *Reformulating Classroom Cultural Roles and Relationships: Negotiating a Third Stance through Discourse*. Paper presented at the annual congress of the International Society for Cultural and Activity Research (ISCAR), University of California, San Diego.

Obara, D. A., Olafson, L., & Quinn, L. (2009, October). *Learning to care: The processes of developing dispositions in K-5 teachers*. Accepted for a roundtable presentation at the annual meeting of the Northern Rocky Mountain Educational Research Association, Jackson, WY.

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